

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

In the Matter of:

LABORATORY FOR ENERGY RELATED HEALTH
RESEARCH/OLD CAMPUS LANDFILL, DAVIS, CA
SITE NUMBER CA2890190000

UNIVERSITY OF CALIFORNIA, RESPONDENT.

Proceeding Under Sections 104, 106, 107,
120, 122(a) and 122(d)(3)
of the Comprehensive
Environmental Response, Comp-
ensation, and Liability Act of 1980
(42 U.S.C. §§9604, 9607, 9620, 9622(a)
and 9622(d)(3)),
as amended by the Superfund
Amendments and Reauthorization
Act of 1986

U.S. EPA Docket

No. 99-16

ADMINISTRATIVE ORDER ON CONSENT FOR REMOVAL ACTION AND REMEDIAL
INVESTIGATION/FEASIBILITY STUDY
(UNIVERSITY OF CALIFORNIA OPERABLE UNIT)

I. INTRODUCTION

1. This Administrative Order on Consent ("Consent Order" or
"Order") is entered into voluntarily by the United States
Environmental Protection Agency ("EPA"), and University of
California, "Respondent". The work performed under this Consent
Order shall constitute an operable unit for site work performed
by the University of California (UCD) ("the UCD OU"). This
Consent Order concerns the performance of removal actions and the
performance and preparation of a remedial investigation and
feasibility study (RI/FS) for the UCD OU for the former
Laboratory for Energy Related Health Research (LEHR)/Old Campus

1 Landfill located in Davis, California. In addition to the work
2 performed under this Consent Order, the Department of Energy
3 ("DOE") will perform soil removal actions and other response
4 activities pursuant to a Federal Facilities Agreement on those
5 areas identified in Section VIII of this Order as the
6 responsibility of DOE. The DOE areas are referred to as the DOE
7 OU. Respondent will perform a Site wide risk assessment and
8 integrate the information including any required risk assessments
9 provided by DOE.

10 II. JURISDICTION

11 2. This Consent Order is issued under the authority
12 vested in the President of the United States by sections 104,
13 106, 107, 120, 122(a) and 122(d)(3) of the Comprehensive
14 Environmental Response, Compensation, and Liability Act, as
15 amended ("CERCLA"), 42 U.S.C. §§9604, 9607, 9620, 9622(a) and
16 9622(d)(3). The authority under sections 104, 106 and 122 has
17 been delegated by the President to the Administrator of EPA on
18 January 23, 1987 by Executive Order 12580, 52 Fed. Reg. 2926
19 (1987). Some of the authority relevant to this Order has been
20 further delegated to Regional Administrators on September 13,
21 1987 by EPA Delegation Nos. 14-8-A and 14-14-C. This authority
22 has been redelegated to the Superfund Branch Chief, EPA Region
23 IX, by Delegation 1290.43-A.

24 3. Respondent agrees to implement the Removal Actions
25 and RI/FS as provided in the Scope of Work for Removal Actions
26 ("SOWRA") attached as Appendix A and Scope of Work for RI/FS
27 ("SOWRI\FS") attached as Appendix B in full accordance with the
28 terms and schedules set forth in this Order and its Appendices

1 and to undertake all other actions required by the terms and
2 conditions of this Consent Order. In any action by EPA to
3 enforce the terms of this Consent Order, Respondent consents to
4 and agrees not to contest the authority or jurisdiction of the
5 Regional Administrator or other officials to issue or enforce
6 this Consent Order, and agrees not to contest the validity of
7 this Order or its terms.

8
9 III. PARTIES BOUND

10 4. This Consent Order shall apply to and be binding
11 upon the United States, EPA, Respondent and its agents,
12 successors, and assigns. No agent, officer, director, trustee,
13 member or employee of Respondent, nor any person controlled by
14 or controlling Respondent, nor any agent, successor, assign,
15 officer, director, trustee or employee or any such controlling or
16 controlled person shall violate this Order. The signatories to
17 this Consent Order certify that they are authorized to execute
18 and legally bind the parties they purport to represent. No
19 change in the ownership or legal status of Respondent shall alter
20 Respondent's obligations under this Consent Order.

21 5. Respondent shall provide a copy of this Consent
22 Order to each person into which such Respondent is merged or
23 consolidated and to any other person that succeeds to its rights
24 or liabilities. Within 14 days after the effective date of this
25 Consent Order or the date of contracting, whichever is later,
26 Respondent shall provide a copy of this Consent Order to each
27 person retained by Respondent to conduct any work pursuant
28 hereto, including all contractors, subcontractors, laboratories

1 and consultants. Respondent shall condition any such contracts
2 upon compliance with this Consent Order. Notwithstanding the
3 terms of any contract, Respondent is responsible for compliance
4 with this Consent Order and for ensuring that its subsidiaries,
5 employees, contractors, consultants, subcontractors, agents and
6 attorneys comply with this Consent Order.

7 IV. STATEMENT OF PURPOSE

8 6. In entering into this Consent Order, the objectives
9 of EPA and the Respondent are: (a) to prevent or minimize
10 potential threats to public health, welfare or the environment by
11 preventing potential migration of hazardous substances by
12 implementing Removal Actions as provided in Appendix A (b) to
13 determine the nature and extent of contamination and any threat
14 to the public health, welfare, or the environment caused by the
15 release or threatened release of hazardous substances, pollutants
16 or contaminants at or from the Laboratory for Energy related
17 Health Research/Old Campus Landfill UCD OU, by conducting a
18 remedial investigation ("RI") as provided in Appendix B of all
19 areas identified in Section VIII as the responsibility of the
20 Respondent ("UCD areas"); (c) to determine and evaluate al-
21 ternatives for remedial action to prevent, mitigate or otherwise
22 respond to or remedy any release or threatened release of
23 hazardous substances, pollutants, or contaminants at or from the
24 Laboratory for Energy Related Health Research/Old Campus Landfill
25 UCD OU by conducting a feasibility study ("FS") of UCD areas as
26 provided in Appendix B; and (d) to recover response and oversight
27 costs, as provided in paragraph 81 of this Consent Order.

28 7. The activities conducted under this Consent Order

1 are subject to approval solely by EPA as set forth in this Order
2 and shall result in the provision of all appropriate information
3 for the removal and RI/FS, as well as all appropriate data for
4 the Site wide risk assessment to be performed by Respondent, and
5 for a Record of Decision ("ROD"), all of which shall be
6 consistent with CERCLA and the National Contingency Plan ("NCP"),
7 40 C.F.R. Part 300. The activities conducted under this Consent
8 Order shall be conducted in a manner consistent with all
9 applicable guidance issued by EPA and all EPA policies and
10 procedures.

11 V. DEFINITIONS AND EPA'S FINDINGS OF FACT

12 8. "Site" as used herein shall mean all portions of
13 Laboratory for Energy Related Health Research/Old Campus Landfill
14 (LEHR) facility, located in Davis, Solano County, California, as
15 specified by the boundaries shown in Appendix C and any area onto
16 or into which contaminants from such property have come to be
17 located, and any other areas necessary for implementation of the
18 response action. Nothing in this Order is intended (1) to modify
19 or limit the definition of the LEHR Site for purposes of the
20 National Priorities List, or (2) to modify or limit EPA's
21 authority to perform, or direct any potentially responsible party
22 to perform, any response actions at the LEHR Site, in addition to
23 those response actions which are the subject of this Consent
24 Order.

25 9. The LEHR Site was added to the National Priorities
26 List on May 31, 1994 pursuant to section 105 of CERCLA.

27 10. Respondent conducted radiological studies on
28 laboratory animals for the DOE beginning in the 1950s until the

1 mid 1980s. The initial studies, conducted for the U.S. Atomic
2 Energy Commission (AEC, now DOE), involved the irradiation of
3 beagles at the UC Davis main campus.

4 11. Respondent began experimenting with radioactive
5 materials, including strontium-90 and radium-226, at LEHR in 1960. In
6 general, waste handling for LEHR-generated waste was conducted onsite
7 at the LEHR facility.

8 12. Portions of the LEHR Site had previously been used for UC
9 Davis campus landfills. Two landfills are located within the fenceline
10 of the former LEHR facility. Disposal in the landfill referred to as
11 Landfill No. 1 began in the 1940's and ceased in the late 1950's to
12 early 1960's. This area is now adjacent to the former Cobalt-60 field.
13 The next oldest disposal area, Landfill No. 2, received wastes from
14 1956 to 1967 and lies partially under the easternmost of two sets of
15 dog pens used for animal research at the LEHR Site. A third landfill
16 disposal unit located approximately 600 feet east of the LEHR fence
17 line, Landfill Unit No. 3, was used from 1963 to 1967. The combined
18 total acreage for the three disposal areas is estimated at
19 approximately six acres.

20 13. In the early 1970s, the outdoor Cobalt-60 Field was
21 constructed at the LEHR Site to study the effects of chronic exposure
22 to penetrating gamma ray irradiation on bone marrow cells of beagles.
23 Outdoor research was terminated in 1985 and indoor irradiation was
24 terminated in 1988; the cobalt-60 source was removed in January 1993.

25 14. In 1975, a program in basic aerosol science was initiated
26 at the LEHR Site to link the evaluation of airborne materials and the
27 laboratory study of these materials utilizing cellular and animal
28 models. The DOE reported that research activities in this program

1 | focused on the potential health effects of release to the atmosphere of
2 | combustion products from fossil fuel power plants with emphasis on coal
3 | flyash.

4 |
5 | 15. In 1983, construction of the Toxic Pollutant Health
6 | Research Laboratory (TPHRL) was completed at LEHR. This facility was
7 | designed for the study of highly toxic and carcinogenic agents,
8 | including both radioactive and chemical materials. Research at the
9 | TPHRL included studies of the effects of plutonium-241 and
10 | americium-241 on beagles and monkeys; radioactive and toxic
11 | gas-particle mechanistic aerosol studies; monodisperse aerosol
12 | inhalation deposition; intratracheal applications of carcinogen-coated
13 | particles; and an organic vapor uptake using beagles.

14 | 16. Groundwater quality has been assessed by previous
15 | investigations (Whaler Associates, 1988; Dames and Moore 1990-1991) and
16 | by a quarterly sampling program that began in November 1990. The
17 | quarterly sampling program currently includes 16 monitoring wells
18 | screened within the first hydrostatic unit ("HSU"), 16 wells screened
19 | within the second HSU, 3 wells screened within the fourth HSU, and one
20 | multi-port well screened in the first and second HSUs. The monitoring
21 | wells indicate that nitrate, total dissolved solids, total chromium,
22 | and hexavalent chromium are elevated beyond background levels in most
23 | downgradient wells. Nitrate and the chromium compounds consistently
24 | exceed drinking water standards in several HSU-1 wells. Volatile
25 | Organic Compounds ("VOCs"), primarily chloroform, are consistently
26 | reported in downgradient HSU-1 and HSU-2 wells. In addition, chlordane,
27 | arsenic, selenium, carbon 14, and tritium have been found in the
28 | groundwater.

1 17. Limited VOCs, including methylene chloride, have been
2 detected in soil samples collected from the LEHR Site. In addition,
3 LEHR Site soil samples in predominantly DOE areas reported the
4 following results: frequent detections of gross alpha, gross beta, and
5 tritium activity with the highest concentrations reported from samples
6 collected from the southwest area of the LEHR Site. The highest
7 reported detections of nitrate were reported for soil samples collected
8 from the radium-226 area, and nitrate and chlordane were reported at
9 elevated levels in samples collected from the dog pen areas. Hexavalent
10 chromium was reported at levels higher than the maximum levels reported
11 for samples collected off-site for both the radium-226 and strontium-90
12 areas. The highest levels of strontium-90 were reported for samples
13 collected from the radium-226 area.

14 18. Some organic chemicals, metals, nitrate, and pesticides
15 have been reported for surface water samples collected in the South
16 Fork of Putah Creek both upstream and downstream of LEHR. Antimony,
17 thallium, chromium, methylene chloride, heptachlor, and nitrate have
18 been reported above state drinking water levels. Tritium, carbon-14 and
19 strontium-90 have been detected sporadically in surface water samples
20 at levels below the drinking water standards.

21 19. EPA has classified chloroform as a probable human
22 carcinogens via ingestion. Chloroform is defined as a hazardous
23 substance under CERCLA §101(14), 42 U.S.C. §9601(14).

24 20. Actual and/or potential contaminant releases and
25 migration pathways include direct inhalation and ingestion of
26 contaminated soils and dust, and migration of contaminants in the soil
27 to groundwater and drinking of contaminated groundwater. One irrigation
28 well near the Site was contaminated and closed because it would have

1 ultimately interfered with the interim removal action. Another
2 irrigation well located near the Site was taken out of service because
3 it collapsed.

4 21. University of California is an owner and operator of the
5 Site under CERCLA §107(a)(1) and was an owner and operator at the time
6 of disposal under CERCLA §107(a)(2). University of California has been
7 identified by EPA as potentially responsible as a generator of
8 hazardous substances under CERCLA §107(a)(3).

9 VI. EPA'S CONCLUSIONS OF LAW AND DETERMINATIONS

10 22. The Site is a "facility" as defined in section 101(9) of
11 CERCLA, 42 U.S.C. §9601(9).

12 23. The contaminants found at the Site, as identified in
13 the findings of fact above include "hazardous substances" as defined by
14 Section 101(14) of CERCLA 42 U.S.C. 9601(14).

15 24. The presence of hazardous substances at the Site and/or
16 the past, present or potential migration of hazardous substances
17 currently located at or emanating from the Site constitute actual
18 and/or threatened "releases" as defined in section 101(22) of CERCLA,
19 42 U.S.C. §9601(22).

20 25. Respondent is a "person" as defined in section 101(21)
21 of CERCLA, 42 U.S.C. §9601(21).

22 26. Respondent has agreed to perform the actions required by
23 this Order regardless of whether it is a responsible party under
24 sections 104, 106, 107 and 122 of CERCLA, 42 U.S.C. §§9604, 9606, 9607
25 and 9622.

26 27. EPA has determined that the actions required by this
27 Consent Order are necessary to protect the public health or welfare or
28 the environment, are in the public interest, 42 U.S.C. §9622(a), are

1 consistent with CERCLA and the NCP, 42 U.S.C. §§9604(a)(1) and 9622(a),
2 and will expedite effective remedial action and minimize litigation, 42
3 U.S.C. §9622(a).
4

5 VII. NOTICE

6 28. By providing a copy of this Consent Order to the State
7 of California ("State"), EPA is notifying the State that this Order is
8 being issued and that EPA is the lead agency for coordinating,
9 overseeing and enforcing the actions required by the Order. State
10 agencies: Department of Toxic Substances Control ("DTSC"); Central
11 Valley Regional Water Quality Control Board ("CVRWQCB"); and Department
12 of Health Services ("DHS") may continue oversight assistance as
13 provided prior to this agreement.

14 VIII. DIVISION OF RESPONSIBILITY FOR THE SITE

15 29. Respondent assumes clean up responsibility for: The
16 three landfills; disposal trenches located south and east of landfill
17 two as depicted in Appendix C; 49 waste holes; the old waste water
18 treatment plant, the groundwater impacted by the Site, and the surface
19 water and storm water runoff impacted by the UCD OU. As documented in a
20 Memorandum of agreement between DOE and Respondent, see Appendix D, and
21 pursuant to an Interagency Agreement with US EPA, DOE has accepted
22 clean up responsibility for: Radium-226 and strontium-90 leach fields
23 and tanks; DOE buried disposal box; on Site domestic septic systems;
24 DOE disposal trenches; the dog pens and decontamination and
25 decommissioning of buildings used in the radiochemical experiments.
26 Nothing in this Consent Order shall affect the liability of DOE or its
27 response actions at the Site.

28 IX. WORK TO BE PERFORMED

1 30. All work performed by or on behalf of Respondent under
2 this Consent Order shall be done by and under the supervision of
3 personnel with experience and education sufficient to qualify them to
4 perform properly and promptly the actions required hereby. Within 30
5 days of the effective date of this Order, Respondents shall notify EPA
6 in writing of all names, titles and qualifications of any supervisory
7 personnel, other contractors, subcontractors, consultants and
8 laboratories, that have been retained to carry out such work. Within
9 14 days of EPA's receipt of the written notice, EPA shall have the
10 opportunity to disapprove of the qualifications of these personnel or
11 entities. If EPA disapproves in writing of any person's or entity's
12 technical qualifications, Respondent shall, within 14 days of the
13 written notice, notify EPA of the identity and qualifications of the
14 replacement or indicate that no qualified replacement is available and
15 explain in writing the reasons therefor. If EPA disapproves of the
16 replacement, EPA reserves the right to terminate this Order and conduct
17 a removal and a complete RI/FS, to seek reimbursement for costs and
18 penalties from Respondent and/or to seek stipulated or statutory
19 penalties. During the course of the removal and RI/FS, Respondent
20 shall notify EPA in writing of any changes or additions in the
21 supervisory personnel previously identified and not disapproved by EPA,
22 or the personnel identified in Appendices A and B, providing their
23 names, titles and qualifications. EPA shall have the same opportunity
24 to disapprove changes and additions to personnel as it has hereunder
25 regarding the initial notification.

26 31. It is hereby agreed to and ordered that Respondent shall
27 conduct activities and submit deliverables as provided in Appendix A,
28 the SOWRA and Appendix B, SOWRI/FS, ("the work"). All such work shall

1 be conducted in accordance with CERCLA, the NCP and, where applicable,
2 shall be consistent with EPA guidance, including, but not limited to,
3 "Guidance for Conducting Non-Time Critical Removal Actions Under
4 CERCLA" (OSWER Directive #9360.0-32) the "Interim Final Guidance for
5 Conducting Remedial Investigations and Feasibility Studies under
6 CERCLA" (OSWER Directive #9355.3-01), "Guidance for Data Useability in
7 Risk Assessment" (OSWER Directive #9285.7-05), guidance referenced
8 therein and guidance referenced in the SOWRI/FS, as they may be
9 properly amended or modified by EPA. The general activities that
10 Respondent is required to perform, deliverables that Respondent is to
11 prepare, and tasks that Respondent must perform are described in
12 Appendices A and B, which are incorporated by reference herein and are
13 enforceable parts of this Order. All work performed by Respondent
14 under this Consent Order shall be in accordance with the SOWRA and
15 SOWRI/FS and in full accordance with the standards, specifications and
16 other requirements of the work as initially approved or as modified by
17 EPA. For purposes of this Order, time shall be calculated in the
18 following manner, in accordance with Rule 6(a) of the Federal Rules of
19 Civil Procedure. In computing any period of time, the day of the act,
20 event, or default from which the designated period of time begins to
21 run shall not be included. The last day of the period so computed
22 shall be included, unless it is a Saturday, a Sunday, or a federal
23 legal holiday, in which event the period runs until the end of the next
24 day which is not one of the aforementioned days. When the period of
25 time prescribed or allowed is less than 11 days, intermediate
26 Saturdays, Sundays, and federal legal holidays shall be excluded in the
27 computation. As used in this Order, "federal legal holiday" includes
28 New Year's Day, Birthday of Martin Luther King, Jr., Washington's

1 Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day,
2 Veterans Day, Thanksgiving Day, Christmas Day, and any other day
3 appointed as a holiday by the President or the Congress of the United
4 States. In the event of any inconsistency between Appendices A or B
5 and this Order, this Order shall prevail.

6 32. Appendices A and B of this Consent Order include lists
7 of deliverables for the Removal and RI/FS. EPA shall, as indicated in
8 Appendices A and B, review, comment upon, and approve or disapprove
9 each report, document or other deliverable. At EPA's discretion,
10 Respondent must fully correct all deficiencies and incorporate and
11 integrate all information and comments supplied by EPA either in
12 subsequent or resubmitted deliverables. In any notice of disapproval
13 EPA shall state the reasons for its disapproval. EPA may, at its
14 discretion, extend the deadline for submittal or resubmittal of any
15 deliverable. If the Respondent disagrees with EPA's actions under this
16 paragraph, it may invoke the dispute resolution procedures under
17 Section XVIII of this Consent Order.

18 33. Respondent shall not proceed with any activities or tasks
19 due to be performed after the due date of any of the deliverables, as
20 set forth in Appendices A and B, until receiving EPA approval of such
21 deliverable. While awaiting EPA approval of these deliverables,
22 Respondent shall proceed with all other tasks and activities that may
23 be conducted independently of these deliverables, in accordance with
24 the schedule set forth in Appendices A and B.

25 34. Upon receipt of the feasibility study report, EPA will
26 evaluate, as necessary, the estimates of the risk to the public and
27 environment that are expected to remain after a particular remedial
28 alternative has been completed.

1 35. EPA reserves the right to stop Respondent, where proper
2 cause exists, from proceeding, either temporarily or permanently, on
3 any task, activity or deliverable at any point during the Removal or
4 RI/FS. EPA's order should allow Respondent to stabilize the work area
5 to prevent any immediate risk to health, welfare, and the environment.
6 While Respondent must follow EPA's order, Respondent may invoke the
7 dispute resolution procedures under section XVIII of this Order.
8 Pending the outcome of the dispute resolution process, the Respondent
9 shall not proceed further with the task, activity or deliverable at
10 issue.

11 36. EPA reserves the right to take over a portion or all of
12 the Removal or RI/FS if EPA determines in a manner that is not
13 arbitrary and capricious, that Respondent has failed to perform any
14 substantial portion of the Removal or RI/FS or has performed any
15 substantial portion thereof in such an inadequate or untimely manner
16 that, in either of such circumstances, the successful, timely
17 completion of the Removal or RI/FS is in jeopardy. If EPA does so, the
18 Respondent shall pay to EPA a penalty equal to 100% of the cost
19 incurred by EPA in performing the work taken over by EPA, not to exceed
20 \$100,000 for any single take over ("takeover of work penalty").
21 Payment of this penalty is in addition to the obligation to reimburse
22 EPA for 100% of response and oversight costs.

23 37. The takeover of work penalty shall be paid within 30 days
24 after EPA provides written notice of its decision to take over the
25 Removal or RI/FS and to assess the takeover of work penalty unless
26 Respondent invokes dispute resolution. If Respondent invokes dispute
27 resolution and EPA prevails, Respondent shall pay, at the conclusion of
28 the dispute resolution process, the takeover of work penalty, plus

1 interest as specified in 42 U.S.C. §9607.

2 38. In addition, if EPA takes over a portion or all of the
3 Removal or RI/FS, Respondent shall reimburse EPA for the costs of doing
4 the work EPA has taken over within 30 days of receipt of demand for
5 payment of such costs. The other provisions of this Order concerning
6 cost reimbursement shall apply to this reimbursement obligation.

7 39. The Respondent shall also be liable for any obligations
8 (including to pay costs and stipulated penalties) that accrued to it
9 prior to EPA's decision to take over work.

10 40. In the event EPA performs some tasks but does not
11 perform the Removal or the RI/FS, Respondent shall incorporate and in-
12 tegrate information supplied by EPA into the final Removal or RI/FS
13 report, and Respondent shall prepare the Removal, RI and FS reports
14 according to the schedule in the Appendices A and B.

15 41. Neither failure of EPA to expressly approve or
16 disapprove of Respondent's submissions within a specified time, nor the
17 absence of comments, shall be construed as approval by EPA. No
18 informal advice, guidance, suggestions or comments by EPA regarding
19 reports, plans, specifications, schedules or other writings submitted
20 by Respondent will be construed as relieving Respondent of its
21 obligation to obtain such formal approval as may be required by this
22 Order. No informal advice, guidance, suggestions, or comments by EPA
23 shall be construed as disapproval unless specifically identified as
24 such. Any deliverables required by this Consent Order are, upon ap-
25 proval by EPA, enforceable under this Order.

26 42. Respondent shall, prior to any off-Site shipment of
27 hazardous substances from the Site to an out-of-state waste management
28 facility, provide written notification to the appropriate state

1 environmental official in the receiving state and to EPA of such
2 shipment. However, such notification is not required with regard to
3 any such shipment if the volume does not exceed ten (10) cubic yards.

4 (a) The notification shall be in writing and shall include
5 the following information: (1) the name and location of the facility
6 to which the hazardous substances are to be shipped; (2) the type and
7 estimated quantity of the hazardous substances to be shipped; (3) the
8 expected schedule for the shipment of the hazardous substances; and (4)
9 the method of transportation. Respondents shall notify the receiving
10 state of major changes in the shipment plan, such as a decision to ship
11 the hazardous substances to another facility in the same state or to a
12 facility in another state.

13 (b) The identity of the receiving facility and state will be
14 determined by Respondent following the award of the contract for the
15 Removal or RI/FS. Respondent shall provide to EPA the information
16 described in paragraph 42(a) above, on the off-Site shipment, as soon
17 as practical after the award of the contract and before the hazardous
18 substances are shipped but not less than 45 days prior to shipment of
19 said hazardous substances.

20 X. MODIFICATION OF THE REMOVAL OR RI/FS SOW

21 43. If, at any time during the Removal or RI/FS process,
22 Respondent identifies a need for additional work to complete the
23 Removal or RI/FS, a memorandum documenting the need for additional work
24 and including a conceptual plan for completing the work shall be
25 submitted to EPA for approval. Within 21 days after EPA approval of
26 the memorandum, Respondent shall prepare an addendum to the Work Plan
27 for EPA approval that addresses the additional work. Respondent shall
28 complete the additional work in accordance with the standards,

1 specifications, requirements, and schedules approved by EPA in the
2 addendum to the Work Plan.

3 44. In the event that Respondent discovers conditions posing
4 an imminent and substantial endangerment to public health or welfare or
5 the environment at the Site, Respondent shall notify EPA and
6 appropriate state authorities immediately. In the event of
7 unanticipated or changed circumstances at the Site that materially
8 affect work being performed or to be performed hereunder, Respondent
9 shall notify EPA and the State of California by telephone within two
10 days of discovery of the unanticipated or changed circumstances. In the
11 event that EPA determines that such threat or the unanticipated or
12 changed circumstances warrant changes in the Removal or RI/FS SOW, EPA
13 may modify or amend the Removal or RI/FS SOW. Respondent shall perform
14 the Removal SOW or RI/FS SOW as modified or amended by EPA, or,
15 alternatively, the Respondent may invoke the dispute resolution
16 procedures under section XVIII of this Consent Order. The provisions
17 of this Consent Order relating to stipulated penalties shall not apply
18 to any additional work directed under this subparagraph until
19 Respondent has failed to meet a deadline for work after either (i)
20 Respondent has confirmed its willingness to perform the additional
21 work, or (ii) additional work is required as a result of dispute
22 resolution.

23 45. EPA may determine that additional work related to the
24 conducting of a Removal or an RI/FS is necessary. In the event EPA
25 determines that additional work related to the conducting of the
26 Removal or RI/FS is necessary, EPA will provide the Respondent with
27 written direction describing the additional work to be performed.
28 Within seven days of receipt of EPA's written direction, Respondent

1 shall confirm in writing to EPA its willingness to perform the
2 additional work or Respondent shall invoke the dispute resolution
3 procedures under section XVII of this Consent Order. Within 21 days of
4 (i) Respondent's confirmation of its willingness to perform the
5 additional work or (ii) the completion of the dispute resolution
6 process, Respondent shall prepare an addendum to the Removal SOW or
7 RI/FS SOW which addresses the additional work. Respondent shall
8 complete additional work in accordance with the standards,
9 specifications, requirements, and schedules determined or approved by
10 EPA in a written addendum to the Removal or RI/FS Work Plan. The
11 provisions of this Consent Order relating to the assessment of
12 stipulated penalties shall not apply to any additional work requested
13 under this paragraph until Respondent has failed to meet a deadline for
14 the work after either (i) Respondent has confirmed its willingness to
15 perform the additional work, or (ii) additional work is required as a
16 result of dispute resolution.

17 XI. QUALITY ASSURANCE

18 46. Respondent shall guarantee that work performed, samples
19 taken and analyses conducted conform to the requirements of the Removal
20 or RI/FS SOW and Quality Assurance guidance identified therein.
21 Respondent shall guarantee that field personnel used by Respondent are
22 properly trained in the use of field equipment and in chain of custody
23 procedures.

24 XII. FINAL RI/FS, PROPOSED PLAN, PUBLIC COMMENT,

25 RECORD OF DECISION, ADMINISTRATIVE RECORD

26 47. EPA retains responsibility for the release of the RI/FS
27 report to the public. EPA retains responsibility for the preparation
28 and release to the public of the proposed plan and record of decision

1 in accordance with CERCLA and the NCP.

2 48. EPA will provide the Respondent with a copy of the final
3 proposed plan and record of decision.

4 49. EPA will prepare the administrative record for the
5 selection of the remedial action. As provided in this Consent Order,
6 Respondent must submit to EPA, subject to paragraphs 42 and 43 hereof,
7 documents developed during the course of the RI/FS upon which selection
8 of the response action may be based. Such documents shall include, but
9 shall not be limited to, copies of plans, task memoranda including
10 documentation of field modifications, recommendations for further
11 action, quality assurance memoranda and audits, raw data, field notes,
12 laboratory analytical reports and other reports. At EPA's request,
13 Respondent must additionally submit any previous studies in their
14 possession conducted under state, local or other federal authorities
15 relating to selection of the response action, and all correspondence
16 between Respondent and state, local or other federal authorities
17 concerning selection of the response action.

18 XIII. PROGRESS MEETINGS

19 50. Respondent shall make presentations at, and participate
20 in, progress meetings every month at the direction of EPA during the
21 initiation, conduct, and completion of the Removal and RI/FS. If
22 necessary, at EPA's discretion, meetings may be held more frequently
23 than every month, and Respondent, or its designated representative,
24 shall attend such meetings. In addition to discussion of the technical
25 aspects of the Removal and RI/FS, topics will include anticipated
26 problems or new issues. Meetings will be scheduled at EPA's
27 discretion. Respondent shall designate one or more representatives to
28 participate in the progress meetings. In addition, EPA will, at its

1 discretion, invite other federal, state and local government agencies
2 and the public to designate representatives to the meetings.

3 XIV. SAMPLING, ACCESS AND DATA AVAILABILITY/ADMISSIBILITY

4 51. Progress Reports shall be submitted to EPA as provided
5 in the SOW. If requested by EPA in writing, Respondent shall submit
6 any results or data as requested by EPA in 7 days or less after receipt
7 of the results or data by the Respondent. Any results or data submitted
8 to EPA pursuant to the previous sentence shall be superseded by the
9 data that has been validated and submitted by Respondent.

10 52. Respondent will orally notify EPA and the State of
11 California at least 14 days prior to conducting field events as
12 described in the Removal SOW, the RI/FS SOW or any other field work
13 outside of this Order but related to the Site. At EPA's oral or
14 written request or the request of EPA's authorized representative,
15 Respondent shall provide split or duplicate samples to EPA and/or its
16 authorized representatives of any samples collected by or on behalf of
17 Respondent in implementing this Consent Order or of any samples
18 collected outside of this Order but related to the Site.

19 53. Except in cases where EPA, the State of California, or
20 their authorized representatives deem that an unannounced Site visit is
21 warranted, EPA, the State of California and their authorized
22 representatives shall use their best efforts to provide University
23 representatives with reasonable advance notice before entering the Site
24 or off-Site areas owned or controlled by Respondent. Respondent shall
25 not interfere with EPA or the State of California or their authorized
26 representatives' entering on and freely moving about, at all times, all
27 areas at the Site and all off-Site areas. This shall include access to
28 areas where work is being performed, for the purposes of inspecting

1 conditions, activities, the results of activities, records, operating
2 logs and contracts at or related to the Site or the hazardous waste
3 practices or actions of Respondent or its contractors or other agents;
4 reviewing the progress of Respondent in carrying out the terms of this
5 Consent Order; conducting tests as EPA or its authorized
6 representatives deem necessary or appropriate; using a camera, sound
7 recording device or other documentary type equipment; and verifying the
8 data submitted to EPA by Respondent. Respondent shall allow EPA or its
9 representatives to inspect and copy all records, files, photographs,
10 documents, sampling and monitoring data and other writings or
11 electronically stored information related to work undertaken in
12 carrying out this Consent Order; provided that nothing in this Consent
13 Order shall be interpreted as requiring Respondent to provide EPA with
14 documents or communications protected by the attorney-client privilege,
15 work-product rule, or any other protection available under law. In the
16 event Respondent withholds any documents or communications on the
17 grounds of the attorney-client privilege, work-product rule, or any
18 other protection available under law, Respondent shall identify the
19 documents or communications that are being withheld. Nothing herein
20 shall be interpreted as limiting EPA's right of entry or inspection
21 authority under federal or state law. All parties with access to the
22 Site under this paragraph shall comply with the Site health and safety
23 plans. The parties recognize that Respondent does not warrant that it
24 presently maintains a right of access to all off-Site areas on which
25 EPA, the State of California, or their authorized representatives may
26 wish to enter. Notwithstanding any other provision of this Consent
27 Order, Respondent does not indemnify or hold harmless EPA, the State of
28 California, or their authorized representatives for any claims or

1 causes of action, including, but not limited to, personal injuries or
2 property damage, related to their entry upon the Site or off-Site areas
3 owned or controlled by Respondent.

4 54. Respondent may assert a claim of business con-
5 fidentiality covering part or all of the information submitted to EPA
6 pursuant to the terms of this Consent Order under 40 C.F.R. §2.203,
7 provided such claim is allowed by section 104(e)(7) of CERCLA, 42
8 U.S.C. §9604(e)(7). This claim shall be asserted in the manner
9 described by 40 C.F.R. §2.203(b) and substantiated at the time the
10 claim is made. Information determined to be confidential by EPA will
11 be given the protection specified in 40 C.F.R. Part 2. If no such
12 claim accompanies the information when it is submitted to EPA, it may
13 be made available to the public by EPA without further notice to the
14 Respondent. Respondent shall not assert confidentiality claims with
15 respect to any data related to Site conditions, sampling or monitoring.

16 55. For purposes of this Consent Order, Respondent waives
17 any objections to any data gathered or generated by EPA or the State of
18 California in the performance or oversight of the work that has been
19 verified according to the quality assurance/quality control (QA/QC)
20 procedures required by the Consent Order or any EPA-approved Removal or
21 RI/FS SOW or sampling and analysis plans. Notwithstanding the
22 foregoing, Respondent does not waive: (a) its right to comment upon the
23 significance of such data or the manner in which such data should be
24 evaluated; and (b) its right to object to such data in any subsequent
25 litigation not involving the United States Department of Justice or
26 EPA. If Respondent objects to any other data relating to the Removal or
27 RI/FS, Respondent shall submit to EPA a report that identifies and
28 explains its objections, describes the acceptable uses of the data, if

1 any, and identifies any limitations to the use of the data. The report
2 must be submitted to EPA within 14 days of the due date of the progress
3 report required to contain the data.

4 56. For any off-Site property that is to be used for access
5 or otherwise for any work hereunder that is owned and controlled in
6 whole or in part by persons other than Respondent, Respondent will use
7 its best efforts to obtain the right to enter and use such property,
8 including entering into agreements or easements permitting such access
9 or other use from such person(s) within 90 days of (i) the effective
10 date of this Consent Order and prior to scheduled field activities or
11 (ii) if later, the date EPA determines a particular agreement or
12 easement is necessary. Such agreements or easements or other rights as
13 Respondent may obtain shall provide access for EPA and its authorized
14 representatives and the State of California and its authorized
15 representatives and shall specify that Respondent is not EPA's
16 representative or agent with respect to liability associated with Site
17 or off-Site activities. Copies of such agreements or easements shall
18 be provided to EPA prior to Respondent's initiation of field activities
19 related to such access. Respondents' best efforts shall include, where
20 reasonably necessary, compensating the appropriate person for the
21 agreement or easement by payment of reasonable compensation thereof to
22 any such person. Immediately upon becoming aware that it will not be
23 reasonably possible to obtain such access, Respondent shall notify EPA.
24 EPA may take appropriate actions including, but not limited to,
25 obtaining access for Respondent, performing those tasks or activities
26 with EPA contractors, or terminating the Consent Order in the event
27 that Respondent cannot obtain such access. Respondent shall not be
28 obligated to pay a takeover of work penalty if EPA takes over work

pursuant to the preceding sentence and Respondent has complied with this paragraph to EPA's satisfaction. In the event that EPA performs those tasks or activities with contractors and does not terminate the Consent Order, Respondent shall perform all other activities not requiring access to that property and shall reimburse EPA for all costs incurred in connection with the tasks or activities which EPA performs. Respondent additionally shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables. Furthermore, the Respondent agrees to indemnify the U.S. Government as specified in Section XXV of this Order. Respondent also shall reimburse EPA for all costs and attorneys fees incurred by EPA to obtain such access pursuant to this paragraph.

XV. DESIGNATED PROJECT COORDINATORS

57. Documents, including reports, approvals, disapprovals, notices and other writings, that must be sent pursuant to this Consent Order shall be sent by first class or express mail or by hand to the following addressees and to any other addressees EPA may designate in writing:

(a) Documents to be submitted to EPA shall be sent to:

Kathy Setian
Remedial Project Manager SFD-8-1
Superfund Division
U.S. EPA, Region IX
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2224

Respondent shall provide an original and two copies of each deliverable required by this Consent Order to EPA's Project Manager, and Respondent shall provide as many additional copies of such documents as reasonably requested by EPA's Project Manager. All additional copies of a document requested in advance of submittal of that document to EPA

1 shall be provided with the original submittal. All other copies
2 requested shall be provided within 10 days after EPA's request.

3 (b) Copies of all documents shall also be sent to the following
4 State of California agencies for review and comment:

5 Department of Toxic Substances Control
6 10151 Croydon Way, Suite 3
7 Sacramento, California 95827-2106
8 Attention: Duncan Austin

9 Central Valley Regional Water Quality Control Board
10 3443 Routier Road, Suite A
11 Sacramento, California 95827
12 Attention: Susan Timm

13 Department of Health Services
14 Radiological Health Branch
15 P.O. Box 942732
16 Sacramento, California 94234-7320
17 Attention: Steve Hsu

18 (C) Documents to be submitted to the Respondent shall be sent
19 to:

20 Brian Oatman
21 Environmental Health and Safety
22 University of California, Davis
23 Davis, California 95616-8648

24 EPA shall provide an original of each document which it submits to the
25 Respondent under this Consent Order.

26 58. EPA's Project Manager will be the EPA staff person
27 designated for receipt of documents. On or before the effective date
28 of this Consent Order, Respondent shall designate a Project
Coordinator. Respondent's Project Coordinator may assign a
representative, including a contractor, to serve as Site representative
for oversight of performance of daily operations during the Removal and
RI/FS. The project coordinator shall be responsible for overseeing the

1 implementation of this Consent Order. To the maximum extent possible,
2 communications between the Respondent and EPA shall be directed to the
3 Project Manager and Coordinator by mail, with copies to such other
4 persons as EPA, the State, and Respondent may respectively designate.
5 Such communications include, but are not limited to, all documents,
6 reports, approvals, and other correspondence submitted under this
7 Consent Order.

8 59. EPA and the Respondent each may change their Project
9 Manager and Coordinator. The other party must be notified in writing
10 at least 10 days prior to the change.

11 60. EPA's Project Manager shall have the authority lawfully
12 vested in or delegated to a Remedial Project Manager (RPM) and On-Scene
13 Coordinator (OSC) by the NCP. In addition, EPA's Project Manager shall
14 have the authority reserved to EPA in paragraph 28 hereof. The absence
15 of the EPA Project Manager from the area under study or any other area
16 shall not be cause for the stoppage or delay of work. The Respondent's
17 Project Coordinator shall have the authority to halt work required by
18 this Consent Order if he or she determines that conditions may present
19 an immediate risk to health or welfare or the environment. After
20 halting any work, the Respondent's Project Coordinator shall
21 immediately confer with the EPA Project Manager to determine how to
22 perform the work in a manner that is consistent with this Consent Order
23 and that protects human health and the environment, and to determine
24 whether any extension of the schedule of deliverables is warranted. If
25 the EPA Project Manager and the Respondent's Project Coordinator are
26 unable to reach agreement on whether the work which has been halted
27 should be resumed, how such work should be performed, or whether any
28 extension of the schedule of deliverables is warranted, Respondent may

1 | invoke the dispute resolution procedures under Section XVIII of this
2 | Consent Order.

3 | 61. EPA may arrange for a qualified person not on EPA staff
4 | to assist in its oversight and review of the conduct of the Removal or
5 | RI/FS, as required by section 104(a) of CERCLA, 42 U.S.C. §9604(a).
6 | The assistant may observe work and make inquiries in the absence of
7 | EPA, but is not authorized to modify the Removal or RI/FS Work Plan or
8 | to take the actions specified in the preceding paragraph.

9 | XVI. OTHER APPLICABLE LAWS

10 | 62. Respondent shall comply with all applicable laws and
11 | regulations when performing the Removal and RI/FS. Pursuant to CERCLA
12 | and the NCP, no local, state or federal permit shall be required for
13 | any portion of any action conducted on-Site, including studies, where
14 | such action is selected and carried out in compliance with section 121
15 | of CERCLA.

16 | XVII. RECORD PRESERVATION

17 | 63. The Respondent shall preserve and retain and shall
18 | instruct its contractors, subcontractors and anyone else acting on its
19 | behalf to preserve and retain all records and documents prepared in
20 | accordance with this Consent Order, for eight years after the
21 | completion of the final Record of Decision for the Site or termination
22 | of this Consent Order, whichever is later. Upon termination of the
23 | eight year period set forth in this paragraph, the Respondent shall
24 | notify EPA at least 90 calendar days before the documents are scheduled
25 | to be destroyed. If EPA requests that the documents be saved, the
26 | Respondent shall, at no cost to EPA, give EPA the documents or copies
27 | of the documents.

28 | XVIII. DISPUTE RESOLUTION

64. Any disputes concerning activities or deliverables required under this Order for which dispute resolution has been expressly provided for, shall be resolved as follows: If the Respondent objects to any EPA notice of disapproval or requirement made pursuant to this Consent Order, Respondent shall notify EPA's Project Manager in writing of its objections within 14 days of receipt of the disapproval notice or requirement. Respondent's written objections shall define the dispute, state the basis of Respondent's objections, and be sent certified mail, return receipt requested. EPA and the Respondent then have an additional 14 days to reach agreement. If an agreement is not reached within 14 days, Respondent may request a determination by EPA Region IX's Director for Superfund. The Director's determination is EPA's final decision. The Director will make a good faith effort to make a determination within 21 days. If the Director requires more than 21 days to make a determination, stipulated penalties shall not accrue beyond 21 days while awaiting the Director's determination. Respondent shall proceed in accordance with EPA's final decision regarding the matter in dispute, regardless of whether Respondent agrees with the decision. Use of the dispute resolution provision will not relieve Respondent of its duty to complete the other tasks in a timely manner in accordance with the schedule. This dispute resolution provision or EPA's decision pursuant to this provision does not grant or imply jurisdiction to any court to review EPA's decisions pursuant to this Consent Order. Any correspondence relating to dispute resolutions under this paragraph shall become part of the administrative record, if such correspondence is relevant to remedy selection.

65. Respondent is not relieved of its obligations to perform

1 and conduct activities and submit deliverables on the schedule set
2 forth in the Removal or RI/FS Work Plan while a matter is pending in
3 dispute resolution. The invocation of dispute resolution does not stay
4 the accrual of, or obligation to pay, stipulated penalties under this
5 Order; provided, however, that if Respondent prevails upon resolution,
6 no penalties shall be paid.

7 XIX. DELAY IN PERFORMANCE/STIPULATED PENALTIES

8 66. For each day that Respondent fails to meet a deadline or
9 due date required by this Order or a Work Plan, or fails to produce a
10 deliverable that demonstrates a substantial good faith effort to comply
11 with the requirements of this Order, or otherwise fails to perform in
12 accordance with the requirements of this Order, Respondent shall be
13 liable for stipulated penalties in accordance with this Section.
14 Penalties begin to accrue on the day that performance is due or a
15 violation occurs, and extends through the period of correction but not
16 past termination of this Order. Where a revised submission by
17 Respondent is required, stipulated penalties shall continue to accrue
18 until a satisfactory deliverable is produced. EPA will provide written
19 notice for violations that are not based on timeliness; nevertheless,
20 penalties shall accrue from the day a violation commences. Payment
21 shall be due within 30 days of receipt of a demand letter from EPA.
22 Dispute resolution shall not stay the accrual of these stipulated
23 penalties.

24 67. Respondent shall pay interest on the unpaid balance of
25 penalties due. Such interest shall begin to accrue at the end of the
26 30-day period established in the preceding paragraph at the rate
27 established by the Department of Treasury pursuant to 30 U.S.C. §3717.

28 68. Respondent shall make all payments due under any

1 provision of this Order by forwarding a certified or cashier's check
2 to:

3 U.S. Environmental Protection Agency
4 Region IX, Attn: Superfund Accounting
P.O. Box 360863M
Pittsburgh, PA 15251

5 All checks shall be made payable to "EPA-Hazardous Substance Superfund"
6 and shall identify the name of the Site, the Site identification
7 number, the account number and the title of this Order. A copy of the
8 check and transmittal letter shall be forwarded to the EPA Project
9 Manager.

10 69(a). For the following major deliverables stipulated
11 penalties shall accrue in the following amounts for each late
12 deliverable or other violation: \$500 per day, per violation, for the
13 first 7 days of non-compliance; \$1000 per day, per violation, for the
14 8th through 14th day of noncompliance; \$5,000 per day, per violation,
15 for the 15th through 30th day of noncompliance; and \$10,000 per day,
16 per violation, for all violations lasting beyond 30 days:

- 17 1. Draft Removal Work Plan;
- 18 2. Final Removal Work Plan;
- 19 3. Draft RI/FS Work Plan;
- 20 4. Final RI/FS Work Plan ;
- 21 5. Draft RI/FS Report;
- 22 6. Final RI/FS Report;

23 (b) For all other deliverables or other performance required
24 under this Consent Order, stipulated penalties, shall accrue in the
25 following amounts for each late deliverable, missed due date, or other
26 violation: \$250 per day, per violation, for the first 7 days of non-
27 compliance; \$500 per day, per violation, for the 8th through 14th day
28 of noncompliance; \$1,000 per day, per violation, for the 15th through

1 30th day of noncompliance; and \$2,000 per day, per violation, for all
2 violations lasting beyond 30 days.

3 (c) Respondent may dispute EPA's right to the stated amount
4 of penalties by invoking the dispute resolution procedures under
5 Section XVIII of this Consent Order. Penalties shall accrue but need
6 not be paid during the dispute resolution period. If Respondent does
7 not prevail upon resolution, all penalties shall be due to EPA within
8 30 days of resolution of the dispute. If Respondent prevails upon
9 resolution, no penalties shall be paid.

10 70. The stipulated penalties provisions do not preclude EPA
11 from pursuing any other remedies or sanctions available to EPA because
12 of the Respondent's failure to comply with this Consent Order,
13 including but not limited to conduct of all or part of the Removal or
14 RI/FS by EPA. Payment of stipulated penalties does not alter
15 Respondent's obligations to complete its obligations under this Consent
16 Order.

17 71. The schedule, due dates and specific time frames for
18 Respondent's submission of deliverables to EPA pursuant to the Removal
19 Work Plan and the RI/FS Work Plan are provided in Appendices B and C of
20 this Consent Order. Other due dates for performance are also included
21 elsewhere in this Order. All interim deliverables shall be approved by
22 EPA unless EPA determines that approval is not required.

23 72. Respondent is liable for the payment of stipulated
24 penalties accruing under this Consent Order.

25 XX. FORCE MAJEURE

26 73. "Force Majeure," for purposes of this Consent Order, is
27 any event arising from causes beyond the control of Respondent and of
28 Respondent's contractors, consultants and subcontractors, that delays

1 or prevents performance of any obligation under this Consent Order
2 notwithstanding Respondent's best efforts to avoid the delay. The
3 requirement that the Respondent exercise best efforts includes using
4 best efforts to anticipate any potential force majeure event and best
5 efforts to address the effects of any potential force majeure event (1)
6 as it is occurring and (2) following the potential force majeure event,
7 such that the delay is minimized to the extent practicable. Examples
8 of events that are not force majeure events include, but are not
9 limited to, increased costs or expenses of any work to be performed
10 under this Order, or financial or business difficulties of Respondent.

11 74. If any event may occur or has occurred that may delay
12 the performance of any obligation under this Order, whether or not
13 caused by a force majeure, Respondent shall notify by telephone the EPA
14 Project Manager or, in his or her absence, the Chief of the Superfund
15 Air Force and DOE Section (SFD-8-1), EPA Region 9, within 2 days of
16 when the Respondent knew that the event might cause a delay. Within 7
17 days thereafter, Respondent shall provide in writing the reasons for
18 the delay; the anticipated duration of the delay; all actions taken or
19 to be taken to prevent or minimize the delay; a schedule for
20 implementation of any measures to be taken to mitigate the effect of
21 the delay; and a statement as to whether, in the opinion of Respondent,
22 such event may cause or contribute to an endangerment to public health,
23 welfare or the environment. Respondent shall exercise best efforts to
24 avoid or minimize any delay and any effects of a delay. Failure to
25 comply substantially with the requirements of this paragraph shall
26 preclude Respondent from asserting any claim of force majeure.

27 75. If EPA agrees that a delay or anticipated delay is
28 attributable to force majeure, the time for performance of the

obligations under this Order that are affected by the force majeure event shall be extended by agreement between EPA's Project Manager and Respondent's representative for a period of time not to exceed the actual duration of the delay caused by the force majeure event. An extension of the time for performance of the obligation directly affected by the force majeure event shall not, of itself, extend the time for performance of any subsequent obligation, unless the subsequent obligation is dependent on the obligation directly affected by the force majeure event.

76. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, or does not agree with Respondent on the length of the extension, the issue shall be subject to the dispute resolution procedures set forth in Section XVII of this Order. In any such proceeding, to qualify for a force majeure defense, Respondent shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay was or will be warranted under the circumstances, that Respondent did exercise or are using their best efforts to avoid and mitigate the effects of the delay, and that Respondent complied with the requirements of this Section (Section XIX).

XXI. REIMBURSEMENT OF PAST COSTS

77. Respondent shall pay past response costs incurred by the United States in conjunction with the LEHR Site UCD area, in the amount of \$75,000.00 within 45 days of the effective date of this Order, in full satisfaction of Respondent's alleged liability for the past costs. If this sum has not been paid within 45 days of the effective date of this Order, interest thereon shall begin to accrue on the 46th day after

1 the effective date of this Order and shall continue until payment has
2 been made. The interest rate is the rate of interest on investments
3 for the Hazardous Substances Superfund in section 107(a) of CERCLA.
4

5 78. The Respondent's payment shall be made by certified or
6 cashier's check made payable to "EPA-Hazardous Substances Superfund."
7 The check shall reference the Site name, address, and identification
8 number, and the EPA docket number for this action and shall be sent by
9 the Respondent to:

10
11 EPA Region 9
12 Attention: Superfund Accounting
13 P.O. Box 360863M
Pittsburgh, PA 15251

14 79. The Respondent shall simultaneously send a copy of its
15 check to:

16 Kathy Setian, Remedial Project Manager
17 U.S. EPA Region 9, SFD-8-1
18 75 Hawthorne Street
San Francisco, CA 94105

19 80. All costs which will be incurred by the United States
20 after the effective date of this Consent Order and which are related to
21 the scope of this Consent Order, shall be included under Section XXII
22 below of this Consent Order as Response and Oversight costs.
23 Respondent agrees to pay all such costs which have been or will be
24 incurred by the United States after the effective date of this Consent
25 Order pursuant to the terms of section XXII below of this Consent
26 Order.

27 XXII. REIMBURSEMENT OF RESPONSE AND OVERSIGHT COSTS

28 81. Following the effective date hereof, EPA may submit to

1 Respondent on a periodic or other basis, and will make a good faith
2 effort to do so no less frequently than annually, payment demands
3 containing documentation of response and oversight costs. "Response
4 Costs" shall mean all costs incurred after August 30, 1999, which are
5 related to the UCD area, the Removal or the RI/FS and are within the
6 scope of this Consent Order, including, but not limited to: (a)
7 activities performed by EPA as part of the Removal and RI/FS and
8 community relations, (b) costs incurred to obtain access, (c) all
9 direct costs, including, but not limited to, time and travel costs of
10 EPA personnel, cooperative agreement costs, contractor costs,
11 compliance monitoring, including the collection and analysis of split
12 samples, inspection of Removal and RI/FS activities, Site visits,
13 discussions regarding disputes that may arise as a result of this
14 Consent Order, costs of performing the baseline risk assessment, and
15 review and approval or disapproval of reports and costs of redoing any
16 of Respondents' tasks; (d) associated indirect or overhead costs.
17 "Oversight Costs" shall mean costs incurred by EPA in overseeing
18 Respondent's implementation of this Consent Order. In no event may EPA
19 charge Respondent twice for the same activity. Cost summaries provided
20 by EPA, including EPA's certified Agency Financial Management System
21 summary data (SPUR Reports) or EPA's Cost Documentation Management
22 System Report (CDMS), shall serve as sufficient basis for payment
23 demands. Except as provided in the following paragraph, the Respondent
24 shall, within 30 days of receipt of each such demand, remit or cause to
25 be remitted a certified or cashier's check for the amount of those
26 costs. Copies of the transmittal letter and check should be sent
27 simultaneously to the EPA Project Manager. Interest shall accrue from
28 30 days after a payment of a specified amount is demanded in writing

1 and shall continue until the date of the payment. The interest rate is
2 the rate of interest on investments for the Hazardous Substances
3 Superfund in section 107(a) of CERCLA. Notwithstanding EPA's proposed
4 Cost Recovery Rule (57 Fed. Reg. 34742-34755, August 6, 1992), or any
5 other cost recovery rules proposed by EPA subsequent to the effective
6 date of this Consent Order, which would, among other things,
7 significantly increase the indirect costs charged by EPA, the indirect
8 costs to be paid by the Respondent under this Consent Order shall be
9 based upon the indirect cost allocation methodology in effect on
10 January 1, 1993, and as based on the EPA's Superfund Indirect Cost
11 Manual issued in July 1991.

12 82. Respondent agrees to limit any disputes concerning costs
13 to accounting errors, cost inconsistent with the NCP, and the inclusion
14 of costs outside the scope of this Consent Order. Respondent shall
15 identify any disputed costs and the basis of their objection. All
16 undisputed costs shall be remitted by Respondent in accordance with the
17 schedule set forth above. If any costs are disputed and the dispute is
18 resolved in EPA's favor, Respondent shall, at the conclusion of the
19 dispute resolution process, remit or cause to be remitted a certified
20 or cashier's check for the amount of the costs which have been
21 determined to be due and owing, and any interest which has accrued
22 thereon. Interest on disputed costs shall accrue in the same manner
23 and at the same rate as provided above in paragraph 67 of this Consent
24 Order. Respondent bears the burden of establishing an EPA accounting
25 error or the inclusion of costs outside the scope of this Consent
26 Order.

27 XXIII. RESERVATIONS OF RIGHTS AND REIMBURSEMENT OF OTHER COSTS

28 83. EPA reserves the right to bring an action against

1 Respondent under section 107 of CERCLA for recovery of any response
2 costs, including Oversight Costs, incurred by the EPA at the Site that
3 are not reimbursed by Respondent, any costs incurred in the event that
4 EPA performs the Removal or RI/FS or any part thereof, and any other
5 costs incurred by EPA in connection with response activities conducted
6 under CERCLA or any other legal authority at the Site. Except as
7 expressly provided in this Consent Order, Respondent reserves all
8 rights it may have to oppose and defend against any action brought by
9 EPA, and to assert any and all claims they may have against EPA, any
10 person, and any government agency.

11 84. EPA reserves the right to bring an action against
12 Respondent to collect stipulated penalties assessed pursuant to section
13 XVIII of this Consent Order, to seek penalties pursuant to section 109
14 of CERCLA, 42 U.S.C. §9609, and to seek punitive damages pursuant to
15 section 107(c)(3) of CERCLA, 42 U.S.C. §9607(c)(3). Except as
16 expressly provided in this Consent Order, Respondent reserves all
17 rights it may have to oppose and defend against any action brought by
18 EPA, and to assert any and all claims it may have against EPA, any
19 person, and any government agency.

20 85. Except as expressly provided in this Consent Order, each
21 Party reserves all rights and defenses it may have. Nothing in this
22 Consent Order shall affect EPA's removal authority or EPA's response or
23 enforcement authorities including, but not limited to, the right to
24 seek injunctive relief, stipulated penalties, statutory penalties,
25 and/or punitive damages against Respondent or other persons.

26 86. Following satisfaction of the requirements of this
27 Consent Order, Respondent shall have resolved its liability, if any, to
28 EPA for the work performed by the Respondent pursuant to this Consent

1 Order. Respondent is not released from liability for any response
2 actions taken beyond the scope of this Consent Order regarding
3 removals, other operable units, remedial design/remedial action of this
4 operable unit, or activities arising pursuant to section 121(c) of
5 CERCLA.

6 87. With regard to claims for contribution against
7 Respondent for matters addressed in this Consent Order, the parties
8 hereto agree that the Respondent is entitled to such protection from
9 contribution actions or claims as provided by CERCLA Section 113(f)(2),
10 42 U.S.C. §9613(f)(2). For purposes of this paragraph, "matters
11 addressed" shall include liability pursuant to CERCLA, RCRA, and common
12 law for removal work performed pursuant to this Consent Order,
13 preparation of an RI\FS, Past Response and Oversight Costs, and Future
14 Oversight Costs.

15 XXIV. OTHER CLAIMS

16 88. In entering into this Order, Respondent waives any right
17 to seek reimbursement under section 106(b) of CERCLA. Respondent also
18 waives any right to present a claim under section 111 or 112 of CERCLA.
19 This Order does not constitute any decision on preauthorization of
20 funds under section 111(a)(2) of CERCLA. Respondent further waives all
21 other statutory and common law claims against EPA, including, but not
22 limited to, contribution and counterclaims, relating to or arising out
23 of conduct of the Removal or RI/FS.

24 89. Nothing in this Order shall constitute or be construed
25 as a release from any claim, cause of action or demand in law or equity
26 against any person, firm, partnership, subsidiary or corporation not a
27 signatory to this Consent Order for any liability it may have arising
28 out of or relating in any way to the generation, storage, treatment,

1 handling, transportation, release, or disposal of any hazardous
2 substances, pollutants, or contaminants found at, taken to, or taken
3 from the Site. Respondent reserves all rights it may have to recover
4 from third parties its costs under this Consent Order and at the Site.

5 90. Respondent shall bear its own costs and attorneys fees.

6 XXV. DISCLAIMER

7 91. By signing this Consent Order and taking actions under
8 this Consent Order, the Respondent does not necessarily agree with
9 EPA's Findings of Fact and Conclusions of Law. Furthermore, the
10 participation of the Respondent in this Consent Order shall not be
11 considered an admission of liability and is not admissible in evidence
12 against the Respondent in any judicial or administrative proceeding
13 other than a proceeding by the United States Department of Justice,
14 including EPA, to enforce this Consent Order or a judgment enforcing
15 this Consent Order. Respondent retains its right to assert claims
16 against other potentially responsible parties at the Site. However,
17 the Respondent agrees not to contest the validity or terms of this
18 Consent Order, or the procedures underlying or relating to it in any
19 action brought by the United States, including EPA, to enforce its
20 terms.

21 XXVI. FINANCIAL ASSURANCE, INSURANCE AND INDEMNIFICATION

22 92. Within 30 Days of entry of this Consent Order, the
23 Respondent shall establish and maintain financial security in the
24 amount of \$750,000 through a demonstration that Respondent satisfies
25 the requirements of 40 C.F.R. Part 264.143(f).

26 93. Respondent shall resubmit sworn statements conveying the
27 information required by 40 C.F.R. Part 264.143(f) annually, on the
28 anniversary of the effective date of this Consent Order. In the event

1 that EPA determines at any time that the financial assurances provided
2 pursuant to this Section are inadequate, the Respondent shall, within
3 30 days of receipt of notice of EPA's determination, obtain and present
4 to EPA for approval another form of financial assurance satisfactory to
5 EPA. The Respondent's inability to demonstrate financial ability to
6 complete the work and other obligations under this Consent Order shall
7 not excuse performance of any activities required under this Consent
8 Order.

9 94(a). Prior to commencement of any work under this Order,
10 Respondent shall demonstrate to EPA that Respondent's consultant has
11 secured and shall maintain in force for the duration of this Order
12 Comprehensive General Liability ("CGL") and automobile insurance, with
13 limits of not less than \$5 million combined single limit, naming as
14 insured the United States. The CGL insurance shall include Contractual
15 Liability Insurance in the amount of not less than \$1 million per
16 occurrence, and Umbrella Liability Insurance in the amount of not less
17 than \$2 million per occurrence. Prior to commencement of any work
18 under this Order, and annually thereafter on the anniversary of the
19 effective date of this Consent Order, Respondent shall provide to EPA
20 certificates of such insurance and, if EPA so requests, a copy of the
21 insurance policies.

22 (b) Respondent shall also demonstrate to EPA that
23 Respondent's consultant has secured and shall maintain in force for the
24 duration of this Order the following: Professional Errors and Omissions
25 Insurance in the amount of not less than \$1 million per occurrence.
26 Prior to commencement of any work under this Consent Order, and
27 annually thereafter on the effective date of this Consent Order,
28 Respondent shall provide to EPA a certificate of such insurance and, if

1 EPA so requests, a copy of the insurance policy.

2 95. If Respondent's consultant is unable to satisfy the
3 insurance requirements of Paragraph 79 of this Consent Order, the
4 Respondent shall obtain the required insurance and shall comply with
5 all of the provisions of Paragraph 79 of this Consent Order.

6 96. The Respondent agrees to indemnify and hold the United
7 States Government, its agencies, departments, agents, and employees
8 harmless from any and all claims or causes of action arising from or on
9 account of acts or omissions of Respondent, its employees, agents,
10 servants, receivers, successors, assignees, or contractors, in
11 carrying out activities under this Consent Order, except to the extent
12 that the act or omission was directed by EPA over the good faith
13 objection of Respondent. The United States Government or any agency
14 or authorized representative thereof shall not be held as a party to
15 any contract entered into by Respondent in carrying out activities
16 under this Consent Order.

17 XXVII. EFFECTIVE DATE AND MODIFICATION

18 97. The effective date of this Consent Order shall be the
19 date it is signed by EPA.

20 98. Except as expressly provided for in this Consent Order,
21 the Order may not be amended or modified except by written agreement of
22 EPA and Respondent. Amendments shall be effective when signed by EPA
23 after Respondent has signed. EPA Project Managers do not have the
24 authority to sign amendments or modifications to the Consent Order,
25 except for those amendments or modifications expressly provided for in
26 this Order.

27 XXVIII. TERMINATION AND SATISFACTION

28 99. This Consent Order shall terminate when the Respondent

1 demonstrates in writing and certifies to the satisfaction of EPA that
2 all activities required under this Consent Order, including any addi-
3 tional work, payment of response and oversight costs, and payment of
4 any stipulated penalties due, have been performed and EPA has approved
5 the certification. This termination shall not, however, affect
6 Respondent's obligations under Sections XVI, XXII, XXIII, or paragraph
7 82 of this Consent Order.

8 100. The certification shall be signed by an authorized
9 representative of the Respondent. Each representative shall make the
10 following attestation: "I certify that the information contained in or
11 accompanying this certification is true, accurate, and complete." For
12 purposes of this Consent Order, an authorized representative is an
13 official who is in charge of a principal function of the entity at
14 issue.

15 XXIX. COUNTERPARTS

16 101. This Consent Order may be executed and delivered
17 in any number of counterparts, each of which, when executed and
18 delivered, shall be deemed to be an original, but such
19 counterparts shall together constitute one and the same document.

20 IT IS SO AGREED:

21
22 UNIVERSITY OF CALIFORNIA

23
24 By: 

25 Name: Janet C. Hamilton
26 Title: Vice Chancellor--Administration

27 DATE: 9/28/99

28 The above being agreed and consented to, IT IS SO ORDERED.

1 By: Michael Healey
2 Keith Takata
3 Director, Superfund Division
4 Region 9
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DATE: 9/30/99

15 LIST OF APPENDICES

16 Appendix A: Statement of Work for Removal Actions
17 Appendix B: Statement of Work for RI/FS
18 Appendix C: Site map
19 Appendix D: Memorandum of Agreement between UC Davis and DOE

20 EACH COPY OF THIS CONSENT ORDER SHALL INCLUDE THE APPENDICES, WHICH ARE
21 INCORPORATED BY REFERENCE IN THE ORDER AND ARE AN ENFORCEABLE PART
22 THEREOF.
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APPENDIX A

STATEMENT OF WORK FOR REMOVAL ACTIONS AND MITIGATION/REPAIR

A. OBJECTIVE

To plan and conduct appropriate and timely removal actions at the Site, in accordance with CERCLA and the NCP.

B. WORK TO BE PERFORMED

All deliverables contained in this Statement of Work (SOW) are to be submitted in draft for EPA review and comment. Comments from EPA shall be incorporated into draft final documents for regulatory approval before being finalized. Schedules for these documents are given in Section C.

Task 1: Groundwater Interim Removal Action (in progress)

Respondent shall continue operation of the groundwater interim removal action (IRA) as documented in respondent's EE/CA dated April 1997, EPA's Action Memorandum dated December 1, 1997, and the Treatment Performance Evaluation dated April 29, 1999. The IRA objectives are:

- 1) To prevent, minimize, or mitigate potential threat to public health and the environment.
- 2) To eliminate or substantially decrease potential offsite migration of constituents of concern in HSU-2 (the first transmissive water-bearing zone) at the Site through plume containment and without impacting potential site source areas.
- 3) To substantially reduce the overall mass of chloroform in HSU-2 groundwater.
- 4) To provide information on aquifer response and effects of long-term pumping.
- 5) To provide information on the quality of extracted groundwater.
- 6) To provide operational data which will aid in assessment of groundwater treatment effectiveness and the need for further groundwater remedial action.
- 7) To provide data on reinjection effectiveness.

Task 1.1: Monitoring

Respondent shall monitor system performance in order to evaluate the performance of extraction, capture, treatment, and reinjection components, and to evaluate the effectiveness of meeting the removal action objectives stated above. Reports shall be issued at least quarterly once the system

is operational and functional. An annual report will be issued by March 31 of the following year.

Task 1.2: Groundwater IRA Enhancement

Operation of the groundwater IRA for over one year has demonstrated that influent concentrations of total dissolved solids (TDS) and nitrate exceed water quality goals. Respondent shall prepare an IRA Enhancement Evaluation report that will analyze potential measures to mitigate TDS and nitrate and propose modifications to the groundwater IRA to enhance performance. Prior to construction, UC Davis shall make the Draft Final Enhancement Evaluation Report available for public review. If necessary, treatability studies will be performed subsequent to the Enhancement Evaluation Report and prior to the RI/FS for UC Davis soil areas and groundwater.

UC Davis has prepared a Groundwater Source Investigation Report, and addendum. Based on these documents, EPA may request an Enhancement Evaluation Report for additional source removal actions.

Task 2: Waste Burial Holes Removal Action

Forty-nine known discrete pits or burial holes have been used by Respondent to dispose of waste including low-level radioactive waste, organic chemicals and laboratory waste. Results of previous investigations indicate that the burial holes contain high activity levels of tritium, which is the probable source of groundwater tritium contamination. There are also VOCs in soil and soil gas. The objective of this removal action is to remove the waste and mitigate continued contributions to groundwater contamination. Respondent has prepared an EE/CA, dated August 22, 1999, a Removal Action Work Plan, dated August 17, 1999, and EPA has prepared an Action Memorandum, dated August 1999. The removal action was initiated on September 24, 1999.

Task 2.1: Weekly Reports

Respondent shall issue weekly reports via fax or e-mail to EPA during the period of construction, until the action is determined by EPA to have accomplished its objectives.

Task 2.2: Construction Inspection

Respondent shall schedule an opportunity for EPA to conduct a construction inspection once respondent proposes that the action is complete.

Task 2.3: Final Construction Report

Within 60 days of EPA concurrence that the action is complete, respondent shall submit a final construction report, referring to EPA guidance *Superfund Removal Procedures, Removal Response Reporting: POLREPs and OSC Reports*, OSWER Publication 9360.3-03, Section II (OSC Report). This report shall include:

Executive Summary
Summary of Events (as per guidance)
Analysis of the effectiveness of the removal action at achieving its objectives
Documentation of any Field modifications to the Removal Work Plan
Plan for Long-Term Inspections, Operation and Maintenance

Task 2.4: Characterization Sampling

Within 60 days of EPA acceptance of the Final Construction Report, respondent shall submit a Work Plan for additional characterization of the Waste Burial Holes area. This Work Plan will serve as an addendum to the Final Draft RI/FS Workplan that was prepared in 1994. The purpose of this work will be to characterize the soil beneath the waste burial holes and to determine the magnitude and extent of constituents of concern in affected soil. The Work Plan will include:

Proposed number and locations of soil borings and soil samples
List of analyses to be performed and analytical detection limits
Description of Sampling Procedures
Schedule for completing the characterization field work

Following approval of the Work Plan, respondent shall perform the characterization activities and prepare a report transmitting the results and any recommendations for additional actions.

C. Schedule of Deliverables

The following schedule gives Due Dates for submittal of draft documents. Draft Final revisions are due 15 days after Respondent receives EPA comments on the draft.

Task	Deliverable	Due Date
1.1	Monitoring Reports	Quarterly
1.1	Groundwater IRA Annual Report	March 31, every year
1.2	Groundwater IRA Enhancement Evaluation	January 30, 2000
1.2	Groundwater IRA Enhancement Design	90 days after approval of Evaluation Report
1.2	Groundwater IRA Enhancement Construction Report	30 days after EPA concurrence that construction is complete
2.1	Waste Burial Holes Weekly Reports	Ongoing during field work
2.3	Waste Burial Holes Final Construction Report	30 days after EPA concurrence that action is complete
2.4	Waste Burial Holes Characterization Sampling Work Plan	60 days after EPA acceptance of Final Construction report
2.4	Waste Burial Holes Characterization Sampling Results	90 days after completion of characterization field work activities

APPENDIX B

STATEMENT OF WORK FOR REMEDIAL INVESTIGATION/FEASIBILITY STUDY

A. OBJECTIVE

- 1) To identify residual contamination remaining onsite and summarize data regarding the UC Davis OUs and groundwater;
- 2) To evaluate the risk deriving from residual contamination present at the LEHR Superfund site as a whole, including stormwater, Putah Creek, and DOE areas ("site-wide");
- 3) To identify, analyze, and compare alternatives for remediating residual contamination present at the UC Davis OUs and groundwater.

All remedial activities will be conducted in accordance with CERCLA and the NCP.

B. WORK TO BE PERFORMED

All deliverables contained in this Statement of Work (SOW) are to be submitted in draft for EPA review and comment. Comments from EPA shall be incorporated into draft final documents for regulatory approval before being finalized. Schedules for these documents are given in Section C.

Task 1: RI/FS Work Plan

A Final Draft RI/FS Workplan was prepared in 1994, and amended with a Data Gaps Work Plan (1996), Offsite Hydropunch Investigation Work Plan (1996), Technical Memorandum/Work Plan for Pre-design Activities - Groundwater IRA (1996), Offsite Well Installation Work Plans (1996 and 1997) and IRA Removal Action Work Plan (1997).

At the conclusion of the Removal Actions and characterization work described in Appendix A, Respondent shall prepare a Data Summary and Data Gaps Report as an addendum to the RI/FS Workplan. This report shall include:

- a) identification and brief summary of available data sources needed for the RI/FS, as described below; and
- b) identification of gaps in data needed in order to complete the RI/FS; and
- c) work plan for collecting data to fill data gaps;
- d) schedule for RI/FS report.

Task 2: RI/FS Supporting Documents

Task 2.1: Sample and Analysis Plan - Quality Assurance Project Plan (QAPjP)

A draft revised QAPjP was submitted on Feb. 17 1998. Addenda shall be prepared as needed.

Task 2.2: Sample and Analysis Plan - Field Sampling Plan (FSP)

A Revised FSP was submitted on Dec. 12, 1998. Addenda shall be prepared as needed.

Task 2.3: Health and Safety Plan

A Health and Safety Plan was submitted as part of the RI/FS Workplan (1994). Addenda shall be prepared as needed.

Task 2.4: Data Management Plan

A Data Management Plan was included in the Revised FSP (section 7). Respondent shall submit an addendum giving plans for coordinating and accepting data from DOE in a consistent data format.

Task 3: Remedial Investigation

It is assumed that much of the information needed for a Remedial Investigation (RI) of the UCD areas and groundwater will have been collected by previous investigations and through confirmatory sampling to be conducted by UCD at the completion of the removal actions. It is also assumed that DOE will have transmitted a Risk Assessment Summary report containing data needed by UC Davis to complete a Site-Wide Risk Assessment (SWRA). UCD, in coordination with the EPA, shall determine what data gaps, if any, exist at the site, and shall conduct those investigations necessary to complete the characterization of the LEHR Site, as set forth in the following paragraphs:

- A) Environmental Setting and Pathway Characterization - characterize the actual or potential contaminant migration pathways;
- B) Source Characterization - define the source;
- C) Contaminant Characterization - define the degree and extent of contamination; also specific contaminant fate and transport;
- D) Receptor Identification and Risk Assessment - identify actual or potential receptors and conduct an assessment of risks posed to them.

The Study Area for the RI shall include the UC Davis OUs as defined in the AOC, including but not limited to the groundwater, and surface water affected by contaminant migration in the UCD OU areas, and all other areas necessary for an understanding of the actual or potential threats to human health or the environment from UCD activities. The study area for the SWRA shall additionally include the DOE OUs. While A) and D) above relate to the entire Study Area, it is expected that B) and C) will focus on the 3 landfills, the eastern and southern disposal trenches, groundwater, surface water, storm water, and any residual contamination in the waste burial

holes. The old wastewater treatment plant, located proximal to the UC Davis OUs, has been investigated and will be included in the RI report.

The investigations should result in data consistent with an EPA-approved Quality Assurance/Quality Control Plan and of sufficient technical quality to support the development and evaluation of the remedial action alternative or alternatives during the Feasibility Study. All sampling and analysis shall be conducted in accordance with an EPA-approved Sampling and Analysis Plan. All sampling locations shall be documented in a log and identified on detailed maps of appropriate scale.

Data shall be provided to EPA in an electronic format compatible with EPA data management systems. Monthly written progress reports (such as field memos) submitted to EPA shall be augmented by more frequent communication (such as RPM meetings and/or teleconferences) during periods of increased field activity, sampling and construction.

This outline presents a general checklist of scope items and may require modifications, as appropriate, as the work proceeds.

A. Environmental Setting and Pathway Characterization

Collect data as needed to supplement and verify existing information on the environmental setting and potential contaminant migration pathways in the Study Area. The investigation shall characterize the following:

1. Hydrogeology

Evaluate hydrogeologic conditions in the Study Area. This program shall provide the following information, as appropriate:

- a. A description of the regional and local geologic and hydrogeologic characteristics affecting ground water flow beneath the LEHR Site, including:
 - i) Regional and local stratigraphy;
 - ii) Structural geology;
 - iii) Depositional history;
 - iv) Identification and characterization of areas and amounts of recharge and discharge;
 - v) Regional and local groundwater flow patterns;
 - vi) Characterization of seasonal variations in the groundwater flow regime;
 - vii) General meteorological data including, as applicable: annual and monthly

precipitation averages, monthly temperature averages, wind speed and direction, evaporation rates, and climatic extremes (including frequency of occurrence);

viii) Specific watershed characteristics.

- b. An analysis of any topographic features that might influence the groundwater flow system.
- c. Based on field data, tests, and cores, a representative and accurate classification and description of the hydrogeologic units which may be part of the migration pathways (including saturated and unsaturated units), including, as appropriate:
 - i) Hydraulic conductivity, porosity, effective porosity, pore water velocity, and Darcy velocity;
 - ii) Lithology, grain size, sorting, degree of cementation;
 - iii) An interpretation of the degree of interconnections between saturated zones;
 - iv) The contaminant solute attenuation capacity and mechanisms of the natural earth and wetland sediment materials.
- d. Based on field studies and cores, structural geology and hydrogeological cross sections and fence diagrams showing the extent (depth, thickness, lateral extent) of hydrogeological units which may be part of the migration pathways identifying, as appropriate:
 - i) Sand and gravel layers in unconsolidated deposits;
 - ii) Zones of fracturing or channeling in consolidated or unconsolidated deposits;
 - iii) Zones of higher permeability or lower permeability that might direct and restrict the flow of contaminants;
 - iv) Geologic formation or group of formations that are capable of yielding a significant amount of groundwater to wells and springs;
 - v) Water bearing zones that may serve as a pathway for contaminant migration including perched zones of saturation.
- e. Based on data obtained from groundwater monitoring wells and/or piezometers installed upgradient and downgradient from the potential contaminant sources, a representative description of water level or fluid pressure monitoring including, as appropriate:

- i) Water level contour and/or potentiometric maps (displayed legibly, superimposed on maps of appropriate scale);
 - ii) Hydrologic cross sections showing vertical gradients;
 - iii) The flow system including the vertical and horizontal components of flow;
 - iv) Any seasonal or temporal changes in hydraulic gradients.
- f. A description of manmade influences that may affect the hydrogeology in the vicinity of the LEHR Site including pipelines, drains, ditches and altered channels, seals, compacted fill, etc.

2. Soils

Conduct a program to characterize the soil and rock units above the water table in the vicinity of the UC Davis OUs. Such characterization shall include, as appropriate, but not be limited to, the following information:

- a. SCS soil classification;
- b. Surface soil distribution;
- c. Hydraulic conductivity (saturated and unsaturated);
- d. Bulk density;
- e. Porosity;
- f. Soil pH;
- g. Particle size distribution;
- h. Moisture content, specific capacity, infiltration rate;
- i. Soil stratification effect on unsaturated flow;

3. Surface Water and Sediment

Conduct a program to characterize the surface water and storm water drainage in the Study Area. In coordination with DOE, Putah Creek should be characterized upstream of the LEHR site, near the LEHR site, and immediately downstream of the LEHR site. The surface water and sediment characterization program shall include, as appropriate, but not be limited to the following activities and information:

- a. Description of the water bodies including:
 - i) For Putah Creek: location, elevation, flow, velocity, depth, width, seasonal fluctuations, and flooding tendencies (i.e. 10, 50, 100 and 500 year flood events, as appropriate); and
 - ii) Drainage patterns.
- b. Description of the chemistry of the natural surface water and sediments. This

includes determining, as appropriate, the pH, total dissolved solids, total suspended solids, BOD, COD, alkalinity, conductivity, dissolved oxygen profiles, nutrients, total organic carbon, specific contaminant concentrations including federal priority pollutants, etc.

c. Description of the sediment characteristics including:

- i) Deposition area (including distance downstream and flood plain/bank deposition);
- ii) Thickness profile;
- iii) Physical and chemical parameters including grain size, density, organic carbon content, pH.

B. Source Characterization

For the UCD OUs, collect analytical data as needed to supplement and verify existing data to completely characterize and designate the wastes and areas where wastes have been placed, collected or removed including: type; quantity; physical form; disposition; and other characteristics affecting release. This shall include quantification of the following specific characteristics at each source area:

- 1. Disposal or release area characteristics including: location, design features, operating practices, period of operation, age of area, and general physical conditions.
- 2. Waste characteristics
 - a. Type, quantity and chemical composition of wastes placed in the area, including degradation and reaction byproducts.
 - b. Physical and chemical characteristics of the waste.
 - c. Migration and dispersal characteristics of the waste including: sorption, biodegradability, hydrolysis rates and chemical transformations.
 - d. Bioavailability of the wastes.

C. Contamination Characterization

Collect analytical data as needed to supplement and verify existing data on background conditions and contamination in groundwater, soils, surface water, and sediment, in the Study Area. This data shall be sufficient to define the extent, origin, direction, phase, and rate of movement of contaminants. Data shall include time and location of sampling, media sampled, concentrations found, conditions during sampling, and the identity of the individuals performing the sampling and analysis. Address the following types of

contamination in the Study Area:

1. Groundwater contamination including: the horizontal and vertical extent of groundwater contamination, direction of hazardous substance (contaminant) movement, velocity of contaminant movement, horizontal and vertical concentration of the indicator parameters of all possible hazardous and dangerous waste constituents, identification and characterization of discharge pathways from groundwater to surface water, evaluation of factors affecting contaminant movement, and extrapolation of future contaminant movement.
2. Soil contamination including: vertical and horizontal extent of contamination, contaminant concentrations, velocity and direction of contaminant movement, a description of the contaminant and soil chemical properties and interaction, and potential impacts on other media such as groundwater.
3. Surface water and sediment contamination including: the horizontal and vertical extent of contamination, direction of contaminant movement, velocity of contaminant movement, horizontal and vertical concentration contaminants, evaluation of factors affecting contaminant movement, description of the chemistry of the contaminant and surface water or sediment properties and interaction, and extrapolation of future contaminant movement and fate through modeling.
4. Estimate of overall quantity of wastes and contaminants released over time.

D. Receptor Identification and Risk Assessments

1. Site-Wide Human Health Risk Assessment

Perform a site-wide human health baseline risk assessment in accordance with EPA's Risk Assessment Guidance for Superfund, Human Health Evaluation Manual (Interim Final, December, 1989, EPA 540-1-89-002) and with EPA's Risk Assessment Guidance for Superfund Part D: Standard Planning, Reporting, and Review of Superfund Risk Assessments (currently without an EPA document number, but available on the EPA homepage at <http://www.epa.gov> and scheduled for hard copy release by April 1998). In addition, the human health risk assessment should utilize the most current US EPA Region 9 Preliminary Remediation Goals (PRGs) (available on the Region 9 homepage at <http://www.epa.gov/region9/> or by faxing Dr. Stan Smucker at 415-744-1916). The risk assessment should also make use of an EPA document now in public review, Community Participation in Superfund Risk Assessments Supplement to RAGS (available by faxing Dr. Sophia Serda at 415-744-1916). The work plans, Study Area conceptual model, list of contaminants of concern, list of potential receptors and sensitive populations, and all other components of the risk assessment should be approved by EPA in a phased approach. It is particularly critical that all field sampling plans for data to be used for human health risk assessment be approved by EPA prior to any mobilization in the field. The study will include a program to identify the potential exposure pathways in the surface waters, sediment and soils characterized above and in terrestrial areas potentially impacted by run-

off or sediment transport from the LEHR Site. The program shall include:

- a. Gather and analyze relevant data and data quality from the entire LEHR site, including UC Davis and DOE OUs;
- b. Identify potential chemicals of concern and bioavailable chemical species;
- c. Collect qualitative and quantitative toxicity information for the chemicals of concern and specific species of the chemicals, particularly bioavailable forms;
- d. Determine appropriate toxicity values;
- e. Identify potential exposure pathways and exposed populations;
- f. Estimate exposure concentrations and contaminant intakes for pathways;
- g. Characterize potential for adverse health effects (cancer risks and non-cancer hazard quotients);
- h. Evaluate uncertainty.

2. Site-Wide Ecological Risk Assessment

Perform a site-wide ecological risk assessment according to the Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (Interim Final, June 1997, EPA 540-R-97-006). The work plans, Study Area conceptual model, list of contaminants of ecological concern and bioavailable forms of the chemicals, list of ecological receptors, and all other components of the ecological risk assessment should be approved by EPA in a phased approach. It is particularly critical that all field sampling plans be approved by EPA prior to any mobilization in the field. The ecological study will include a program to identify the potential biological receptors (including benthic and aquatic fauna and plants) in the surface waters characterized above (upstream of the LEHR Site in Putah Creek) and in terrestrial areas potentially impacted by run-off from the LEHR Site. The program shall include:

- a. Identification of the species present, including species identified as threatened or endangered by Federal or State agencies, and of critical habitats such as wetlands;
- b. Estimate of population of all threatened and endangered species;
- c. Selection of ecological receptors;
- d. Selection of assessment and measurement endpoints.

Task 4: Feasibility Study

Conduct a Feasibility Study (FS) and prepare a Remedial Investigation/Feasibility Study Report (either separate or combined).

The FS will serve to evaluate the feasibility and effectiveness of implementing alternative remedial actions. It shall include:

- A. Detailed identification of contamination to be remediated and physical hazards to be removed;
- B. Identification of remedial action alternatives that will protect human health and the environment by eliminating, reducing, or otherwise controlling risks posed through each exposure pathway and migration route. The number and types of alternatives to be evaluated shall take into account the characteristics and complexity of the facility. A phased approach for evaluation of alternatives may be required for certain facilities, including an initial screening of alternatives to reduce the number of potential remedies for the final detailed evaluation. The final evaluation of remedial action alternatives that pass the initial screening shall be evaluated for compliance with the requirements in (40 CFR 300.430[e][9]). The Feasibility Study should specifically evaluate the potential impact on the ecological receptors for each remedial alternative for contaminants in water, sediment and surface soils as the final task of the ecological risk assessment.

Specifically each alternative must be assessed for:

- 1. Overall protection of human health and the environment;
 - 2. Compliance with all applicable or relevant and appropriate federal, state and tribal laws and regulations;
 - 3. Long term effectiveness and permanence;
 - 4. Reduction of the toxicity, mobility, or volume through treatment;
 - 5. Short-term effectiveness;
 - 6. Implementability
 - 7. Cost;
 - 8. State acceptance;
 - 9. Community acceptance.
- C. An evaluation of alternatives based on the nine criteria specified above;

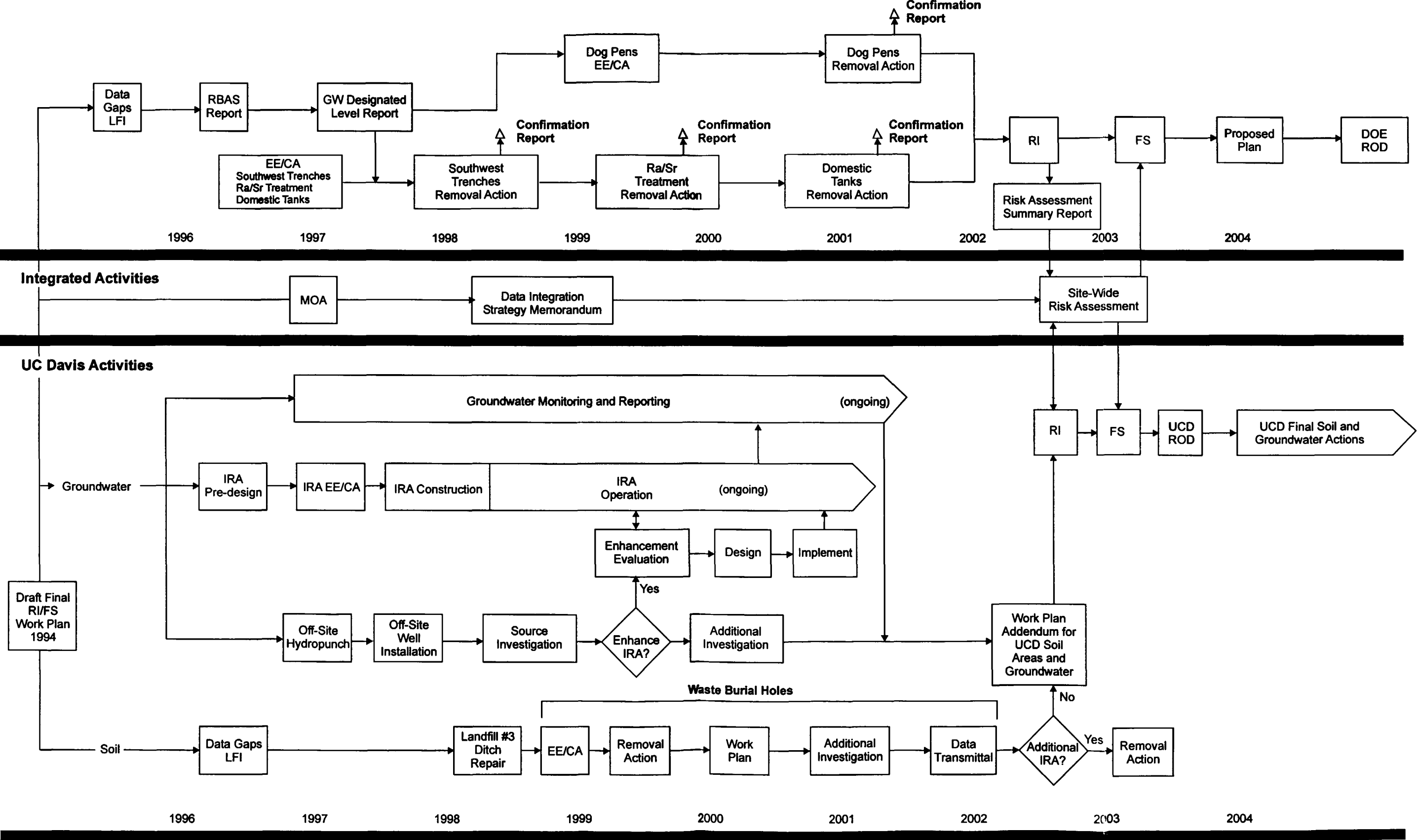
D. A comparison of the alternatives based on the nine criteria specified above.

C. Schedule of Deliverables

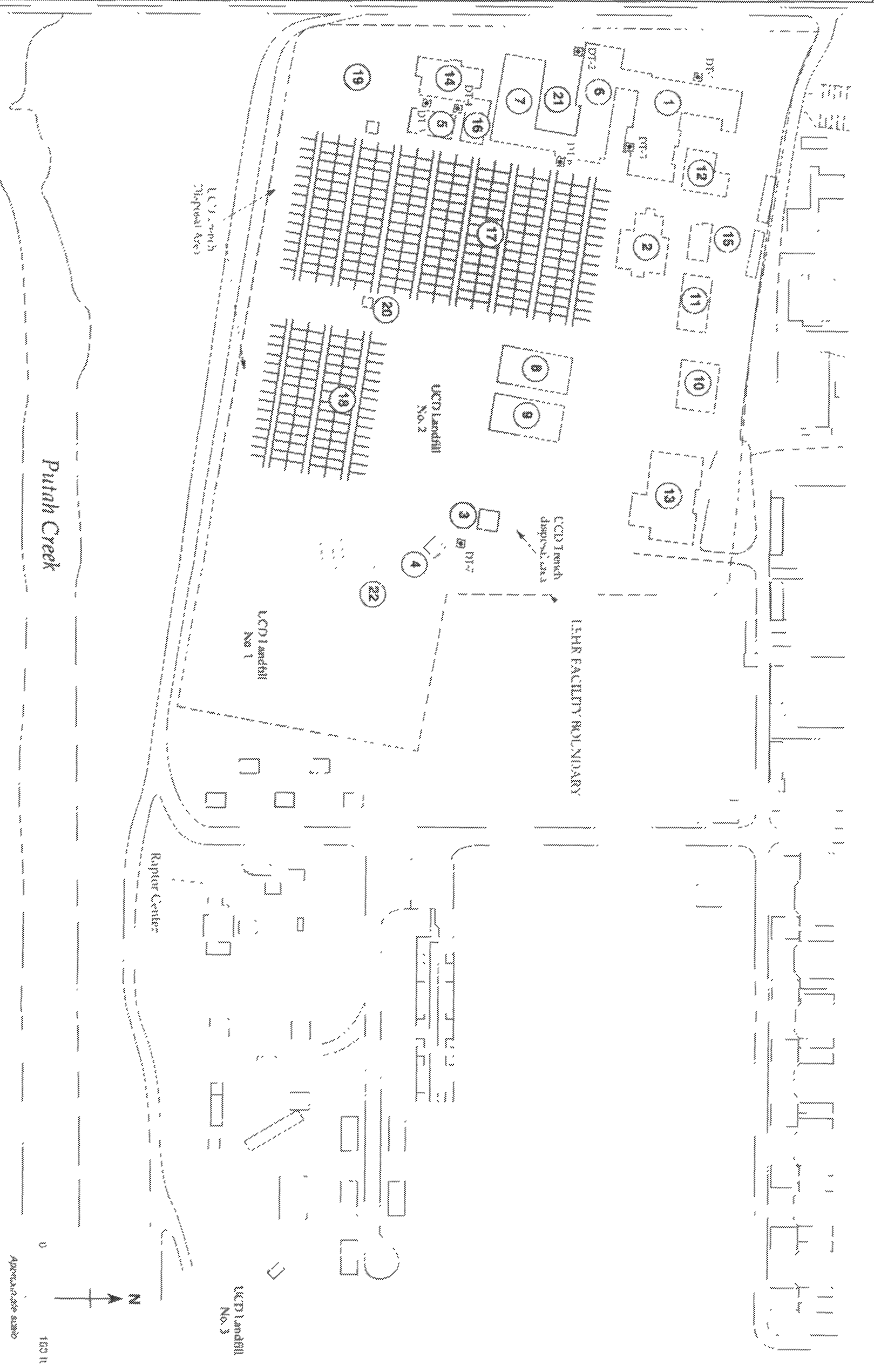
Although Respondent may issue the final RI and FS as a single report, interim deliverables shall be submitted in order to provide EPA an opportunity to review and comment on the work in progress.

Task	Deliverable	Due Date
1	Addendum to RI/FS Work Plan (Data Summary and Data Gaps Report)	90 days past EPA approval of UCD soil or groundwater investigation submittals (Appendix A).
2.4	Addendum to Data Management Plan (Data Integration Strategy Report)	October 30, 1999
3	RI Report for UC Davis OUs	According to schedule contained in Addendum to RI/FS Work Plan, as approved by EPA
3	Site-Wide Risk Assessment	90 days past receipt of DOE risk assessment summary currently scheduled for July 15, 2002.
4	FS Report for UC Davis OUs – screening of alternatives	90 days past EPA approval of final Site-Wide Risk Assessment.
4	FS Report for UC Davis OUs – detailed analysis and comparison of alternatives	60 days past EPA approval of final FS screening alternatives submittal.

PROPOSED LEHR/SCDS CERCLA PROCESS



EXPLANATION	
1	Virology Building (H-215)
2	Cellular Biology Laboratory (H-244)
3	Cool Rooms (H-246)
4	Cow Building (H-229)
5	Specimen Storage (H-230)
6	Animal Hospital No. 1 (H-219)
7	Animal Hospital No. 2 (H-218)
8	Chemistry Building No. 1 (H-202)
9	Chemistry Building No. 2 (H-201)
10	Small Animal Hospital (H-200)
11	Storage Space (H-185)
12	Meat Processing Shop (H-212)
13	Lower Pollutant Health Research Laboratory (H-209)
14	Reproductive Biology Laboratory (H-215)
15	Neurological and Environmental Medicine Building (H-209)
16	Immunology Project No. 4 (H-217)
17	Western Dog Pen
18	Eastern Dog Pen
19	Southwest Irrigation Area
20	DXR (H-200) Box Room (H-200)
21	Location of former hospital building (H-215), storage area, and radiology work area and the radiology work area, first storage tanks
22	Unpolluted radiation field
23	Septic Tanks
Labeled known or suspected contamination areas	
Labeled known or suspected contamination areas	



**MEMORANDUM OF AGREEMENT BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY AND
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
REGARDING THE INVESTIGATION AND REMEDIATION
OF THE LABORATORY FOR ENERGY RELATED HEALTH RESEARCH
AT THE UNIVERSITY OF CALIFORNIA, DAVIS**

INTRODUCTION

Whereas, the United States Department of Energy ("DOE") and The Regents of the University of California ("the University") (referred to collectively as "the Parties"), entered into Contract DE-AC03-76SF00472 ("the Contract") for the operation of the Laboratory for Energy-Related Health Research; and

Whereas, the research at LEHR was initially performed under Project Agreement Nos. 4 and 6 of Contract No. AT(11-1)-10, which was consolidated under Contract No. AT(04-3)-472 (June 29, 1965), which was thereafter redesignated Contract No. E(04-3)-472 by Contract Modification 32 (June 26, 1975), and which was thereafter redesignated Contract EY-76-C-03-0472 by Contract Modification 43 (January 10, 1977), and which was thereafter redesignated Contract DE-AM03-76SF00472 by Contract Modification No. A057 (April 18, 1979), and which was finally redesignated Contract DE-AC03-76SF00472 by Contract Modification No. A095 (August 9, 1984); and

Whereas, the University is the owner of the land upon which the LEHR Facility is located and gave DOE the right to occupy the land and to build improvements thereon in an Occupancy Agreement dated June 29, 1965 ("Occupancy Agreement"); and

Whereas, the Parties entered into a Memorandum of Agreement dated August 29, 1988 (amended on September 29, 1989), which outlined the University's use of the buildings,

structures, facilities and other improvements owned by DOE ("the DOE Improvements") at the LEHR Facility under the Occupancy Agreement; and

Whereas, the Parties entered into a Memorandum of Agreement for Environmental Restoration and Decontamination dated March 13, 1990 (amended on February 17, 1993, and again on November 30, 1993, and referred to collectively as the "Prior MOA"), which outlined the roles and responsibilities of the Parties regarding the investigation and remediation of the LEHR Facility and other areas; and

Whereas, DOE has investigated the LEHR Facility, UC Disposal Areas, Affected Groundwater and portions of the Adjacent Areas, and has begun remediating portions of the LEHR Facility; and

Whereas, the University has investigated the LEHR Facility, UC Disposal Areas, Affected Groundwater, and portions of the Adjacent Areas and is continuing to investigate some of these areas; and

Whereas, the Parties wish to replace the Prior MOA with a new Memorandum of Agreement ("Agreement") that establishes a new relationship between the Parties regarding the investigation and remediation of the LEHR Facility, UC Disposal Areas, and Affected Groundwater that sets forth the activities each will undertake in the future; and

Whereas, the Parties have completed the research work under the Contract and desire to transfer the remaining DOE Improvements to the University;

Now, therefore, the Parties agree as follows:

ARTICLE I - PURPOSE AND SCOPE

A. The purpose of this Agreement is to allocate between the Parties in an equitable and efficient manner activities necessary to complete the investigation and remediation of the LEHR Facility, UC Disposal Areas, and Affected Groundwater, and to allocate responsibility, if any, for the Adjacent Areas and to transfer to the University the DOE Improvements at the LEHR Facility, while providing access to DOE to complete certain decontamination activities required as a result of the research performed under the Contract.

B. The University and DOE intend this Agreement as a settlement of their responsibilities and liabilities to each other for the continuing investigation and remediation of the LEHR Facility, UC Disposal Areas, Affected Groundwater, and Adjacent Areas. Neither the fact of execution of this Agreement nor any of the terms of this Agreement is or shall be construed as an admission of liability or fact by the University or DOE.

C. The following definitions apply in this Agreement:

1. The term "LEHR Facility" means the following areas within the designated boundary shown in Exhibit 1: Maintenance Shop (H-212); Main Building (H-213); the location of the former Imhoff Building (H-214); Reproductive Biology Laboratory (H-215); Specimen Storage (H-216); Inter-regional Project No. 4 (H-217); Animal Hospital No. 2 (H-218); Animal Hospital No. 1 (H-219); Co-60 Building (H-229); Occupational and Environmental Medicine Building (H-289); Co-60 Annex (H-290); Geriatrics Building No. 1 (H-292); Geriatrics Building No. 2 (H-293); Cellular Biology Laboratory (H-294); Small Animal Housing (H-296); Toxic Pollutant Health Research Laboratory (H-299); Storage Space (H-300); the cobalt-60 irradiation field; the southwest trenches; the strontium-90 and radium-226 leach fields and the radium-226

waste tanks; the dog pens and associated soils and gravel; the seven septic tanks; the Imhoff storage tanks; and the DOE disposal box.

2. The term "UC Disposal Areas" means the following areas shown in Exhibit 1: UC landfill cells beneath the LEHR Facility; Landfills 1, 2 (exclusive of dog pens), and 3; the 49 waste holes; and the UC Davis disposal trenches (south and east of Landfill 2). The Parties agree that the areas specifically listed above as "UC Disposal Areas" are not part of the LEHR Facility for purposes of this Agreement even though some of them are partially or entirely within or beneath the designated boundary shown in Exhibit 1.

3. The term "Affected Groundwater" means groundwater containing known or suspected groundwater contaminants released from the LEHR Facility or UC Disposal Areas.

4. The term "Adjacent Areas" means the portions of the UC Davis campus and adjacent areas, including, but not limited to, areas shown in Exhibit 1, other than the LEHR Facility and UC Disposal Areas.

5. The term "known or suspected groundwater contaminants" means the following constituents or characteristics occurring in groundwater: alkalinity, americium-241; bromodichloromethane; calcium; carbon-14; chemical oxygen demand (COD); chlordane; chloride; chloroform; 1,1-dichloroethane (1,1-DCA); 1,2-dichloroethane (1,2-DCA); 1,1-dichloroethene (1,1-DCE); 1,2 dichloropropane; dieldrin; endrin; hexavalent chromium; magnesium; nitrate as NO₃; organophosphates; pH; potassium; plutonium-241; sodium; specific conductance; strontium-90; sulfate; total chromium; total dissolved solids (TDS); 1,1,1-trichloroethane (1,1,1-TCA); tritium; and the degradation products of

bromodichloromethane, chloroform, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethene, 1,2 dichloropropane and 1,1,1-trichloroethane.

ARTICLE II - COOPERATION AND COORDINATION

A. Dispute Resolution

In the event a dispute arises under this Agreement, the Parties shall use the dispute resolution procedure set forth below.

1. DOE shall give written notice of any decision to invoke the dispute resolution procedure to Julie McNeal, Director of Environmental Health & Safety ("EH&S"), at the University of California, Davis ("UC Davis"), TB-30, Davis, California 95616. The University shall give written notice of any decision to invoke the dispute resolution procedure to Mike Brown, DOE Project Coordinator at the DOE Oakland Operations Office, 1301 Clay Street, Oakland, California 94612-5208. Either party may change the designated recipient of the written notice by providing written notification to the other party.

2. The UC Davis Director of EH&S and the DOE Project Coordinator shall then confer in an effort to resolve the dispute. If the parties cannot resolve the dispute within fifteen (15) days, the dispute shall be raised to the Director of the Environmental Restoration Division of the Oakland Operations Office ("OAK") of DOE and the Vice Chancellor-Administration of UC Davis for resolution.

3. The DOE Director and UC Davis Vice Chancellor shall confer and, within thirty (30) days of receiving the dispute, issue a joint decision resolving the dispute or referring the matter to mediation.

4. From the date of the joint decision referenced in the previous paragraph, the Parties shall select a mediator within fifteen (15) days, exchange mediation statements within (30) days, and set the matter for mediation conference within forty-five (45) days.

5. In the event that the Parties are unable to resolve the dispute after the mediation conference referenced in the previous paragraph, either Party may seek any appropriate relief available at law or in equity. Except as otherwise provided in this Agreement, the Parties reserve all of their respective rights under applicable law, this Agreement, the Occupancy Agreement and the Contract.

B. Health and Safety Oversight

DOE and the University shall oversee and manage their respective workers, contractors and subcontractors to assure that they comply with applicable federal and state health and safety standards.

C. Meetings

DOE and its contractors and the University and its contractors shall meet as frequently as necessary to effectively coordinate and implement their respective activities under this Agreement.

D. Contacts with the Public

UC Davis in coordination with OAK shall take the lead in working with the public on issues involving the investigation and remediation of the LEHR Facility, UC Disposal Areas, Affected Groundwater, and Adjacent Areas. In the event that the Parties have a dispute regarding contacts with the public, the Parties shall use their best efforts to resolve the dispute according to the procedures set out in Section II.A of this Agreement. The Parties shall also use best efforts to

provide each other with reasonable prior notice of the public release of information and documents.

E. Support and Coordination of Investigative and Remedial Activities

1. The University and DOE shall cooperate to assure that, to the extent reasonably practicable, the remediation strategies, methodologies and cleanup levels (including applicable or relevant and appropriate requirements, or ARARs, set forth in Section 121 of the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9621) used by both Parties are consistent and cost effective; provided, however, that the duty to cooperate shall not require either Party to unreasonably delay its activities under this Agreement.

2. The University and DOE shall coordinate with each other, to the extent reasonably practicable, all communications with federal, state and local regulatory agencies, including presentations and reports of findings, monitoring results and recommendations concerning their respective investigative and remedial activities. The Parties realize that DOE and the University will begin to submit documents relating to the activities each is obligated to perform under this Agreement and that such documents may contain, among other things, proposals on remediation strategies, methodologies and cleanup levels. The Parties acknowledge that each has the same rights as any member of the public to comment on submissions made by the other Party. However, each Party agrees that it shall provide any comments it may have on the other Party's submissions first to the Party making the submission in order to promote cooperation between the Parties and to assure that any issues regarding remediation strategies, methodologies, cleanup levels and other topics are resolved consistently, quickly and efficiently.

3. The Parties recognize that, from time to time, either Party may wish to meet privately with representatives of one or more of the regulatory agencies. Such private meetings shall not be deemed to constitute a breach of this Agreement. Each Party agrees to give the other Party reasonable advance notice of its intent to meet privately with one or more regulatory agencies.

4. DOE agrees to conduct its activities in such a manner as to minimize, to the extent reasonably practicable, disruption of the University's research. Any communications from DOE to the University's research staff and campus services shall be coordinated through the DOE and UC Davis Project Managers.

F. Providing Information and Access

1. Each Party agrees to provide the other Party with all available non-privileged information on its investigative and remedial activities, including, but not limited to, data, primary documents (remedial investigation reports, feasibility studies, etc.), schedules, cleanup standards, future plans and methodologies.

2. The University agrees to use best efforts to provide DOE (and any persons designated by DOE) with reasonable access to the portions of the LEHR Facility described in Sections A and C of Exhibit 3 and other parts of the UC Davis campus if necessary for DOE to conduct the activities DOE is required to perform under this Agreement. DOE shall limit its requests concerning such areas to areas that it must access to conduct the activities it has agreed to perform under this Agreement, and shall provide UC Davis with reasonable advance notice of when, where and why it needs access to a particular area.

3. DOE will direct the contractors it selects to conduct DOE's activities under this Agreement to keep the University advised of their activities and to coordinate in advance with the University as to any activities that might interfere with the University's use of those DOE Improvements that have been transferred to the University pursuant to Article VI of this Agreement.

4. DOE shall notify the University through the UC Davis Project Manager of any of its activities that might implicate the permit requirements of RCRA regarding the LEHR Facility. DOE shall also provide any other information related to its activities that may have potential impacts on UC Davis's National Pollutant Discharge Elimination System ("NPDES") Permits (i.e., the permit for the main campus waste water treatment plant and the campus's general storm water permit) as they apply to the LEHR Facility. The University is responsible for obtaining and complying with the NPDES Permits. The University is responsible for obtaining and complying with any permits that are required in connection with the activities set forth in Article III. DOE is responsible for obtaining and complying with any NPDES, RCRA or other permits that are required in connection with the activities set forth in Article IV.

ARTICLE III - RESPONSIBILITIES OF THE UNIVERSITY

The University agrees to undertake at its own expense the following activities:

A. Environmental Restoration

1. Except as otherwise provided for in Section IV.A and Section V.C of this Agreement, the University agrees to assume responsibility on October 1, 1996, for completion of the remedial investigation, feasibility study, removal, remedial action,

reports, sampling, analyses, and any other investigative and remedial activities required by federal and state regulatory agencies involving the UC Disposal Areas and Affected Groundwater.

2. The University shall install the two monitoring wells described in the LEHR Environmental Restoration Program (as revised on July 2, 1996) as "survey wells UCD2-28 and UCD2-29 located immediately east of well 8n/2e/22N."

3. As required by federal or state regulatory agencies and except as otherwise provided in Section V.C of this Agreement, the University agrees to take appropriate measures necessary to address the Affected Groundwater to the satisfaction of the regulatory agencies.

4. Subject to the provisions of Section IV.A and Section V.C of this Agreement, the University agrees to conduct any investigative or remedial work that federal or state agencies may require for sources of contaminants in the Adjacent Areas.

5. The University agrees to incorporate the DOE reports and assessments described in Paragraph 5 of Section IV.A into any cumulative risk assessment the University is required to prepare for the LEHR Facility, UC Disposal Areas, Affected Groundwater, or Adjacent Areas.

B. Removal of Wastes and Samples

1. UC Davis has prepared a detailed inventory list of all research materials in the University's possession that were used for DOE research under the Contract (attached as Exhibit 2 to this Agreement). DOE shall not have and shall not assume any responsibility for any research materials not identified in Exhibit 2, regardless of whether the research materials were used for DOE research under the Contract.

2. The handling, storage and disposal of all wastes (radioactive, hazardous, mixed and solid) generated by the University's activities under this Agreement, and of all samples and other research materials of the University currently stored in the LEHR Facility, are the sole responsibility of the University except as provided in Paragraph 1 of this Section III.B.

C. Regulatory Approval

For purposes of this Article III, the phrase "satisfaction of the regulatory agencies" means approval and acceptance of the University activities under this Agreement by the applicable regulatory agencies at the time the work is completed but does not include future, more stringent agency requirements. Compliance with any such future, more stringent agency requirements relating to the University work performed under this Agreement shall be the sole responsibility of the University.

ARTICLE IV - RESPONSIBILITIES OF DOE

DOE agrees to undertake at its own expense the following activities:

A. Environmental Restoration

1. DOE shall complete the remedial investigations, feasibility studies, removal, remedial action, reports, sampling, analyses, and any other investigative and remedial activities required by federal and state regulatory agencies for the LEHR Facility to the satisfaction of the regulatory agencies; provided, however, that any decontamination or decommissioning of the DOE Improvements has been or shall be performed under the Atomic Energy Act of 1954 and applicable DOE Orders.

2. DOE shall pay the University \$500,000 each year during DOE's current and next two fiscal years (1997, 1998 and 1999); the University agrees to use these funds solely for investigating, monitoring, or remediating Affected Groundwater and other activities related to the environmental restoration of the LEHR Facility and UC Disposal Areas. DOE reserves the right to pay all or some of these funds in advance of the fiscal year in which they are due; the decision whether to make advance payments rests entirely in DOE's discretion, and in no event shall DOE pay the University more than \$1.5 million under this Paragraph 2 of Section IV.A regardless of whether it pays any funds in advance.

3. The Parties acknowledge that DOE completed its current groundwater monitoring program at the LEHR Facility for calendar year 1996. DOE shall prepare and submit the report on groundwater monitoring for calendar year 1996 as required by federal and state regulatory agencies. DOE shall perform any required storm water monitoring at the LEHR Facility until it has completed its remedial activities, not including operations and maintenance activities, under this Agreement to the satisfaction of the regulatory agencies. DOE shall not be required to perform such monitoring after the completion of such remedial activities while waiting for the notification of the satisfaction of the regulatory agencies with such remedial activities. This storm water monitoring shall not include any monitoring required as a result of University operations or releases.

4. DOE shall pay the reasonable and necessary costs incurred by state regulatory agencies that have jurisdiction over the LEHR Facility and UC Disposal Areas during DOE's current and next two fiscal years (1997, 1998, and 1999) as set forth in

DOE Nonresearch Grants DE-FG03-96SF20733 and DE-FG03-96SF20956. After September 30, 1999, DOE and the University shall each pay, in accordance with state and federal law, those reasonable and necessary costs incurred by such state regulatory agencies related to the activities that Party is obligated to perform under this Agreement or under other agreements with, or directives from, such regulatory agencies. The Parties shall cooperate to ensure that they establish reasonable and efficient procedures that will allow the state regulatory agencies to allocate their costs incurred after September 30, 1999, between the Parties.

5. DOE agrees to prepare any reports, assessments or other documents that may be required by federal or state regulatory agencies relating to its investigation and remediation of the LEHR Facility. Such reports and assessments include, but are not limited to, risk assessments, ecological assessments, and assessments concerning release limits on residual radionuclides in soils.

B. Removal of Wastes

The handling, storage and disposal of all wastes (radioactive, hazardous, mixed, and solid) generated by DOE's activities under this Agreement are the sole responsibility of DOE. For purposes of this Agreement, the term "wastes" shall not include: (1) research materials, if any, that the University failed to identify as having been used for DOE research under the Contract as required by the Prior MOA and Paragraph 1 of Section III.B of this Agreement; or (2) contaminated media such as soil, structures, buildings, debris, surface water or groundwater that remain *in situ* once DOE has completed its activities under this Agreement to the satisfaction of the regulatory agencies. No waste will be disposed of, or otherwise remain, on University property without the express written permission of the University; provided, however, that DOE

shall have no obligation to remove any contaminated media that remain *in situ* once DOE has completed its activities under this Agreement to the satisfaction of the regulatory agencies. The University agrees that permission to dispose of wastes at the LEHR Facility will not be unreasonably withheld. DOE shall be responsible for filing annual reports with the State of California for the management of hazardous and radioactive mixed wastes generated by or associated with DOE's activities under this Agreement as required under applicable laws and regulations.

C. Regulatory Approval

For purposes of this Article IV, the phrase "satisfaction of the regulatory agencies" means approval and acceptance of the DOE activities under this Agreement by the applicable regulatory agencies at the time the work is completed but does not include future, more stringent agency requirements. Compliance with any such future, more stringent agency requirements relating to the DOE work performed under this Agreement shall be the sole responsibility of DOE.

ARTICLE V - COVENANTS NOT TO SUE

A. Covenants Not to Sue for Past Costs

Each Party covenants that it shall not sue or otherwise seek recovery or reimbursement of any kind from the other Party, its employees, contractors, representatives or agents for costs it incurred after September 30, 1989, through and including the effective date of this Agreement, in investigating or remediating the LEHR Facility, UC Disposal Areas, Affected Groundwater, and Adjacent Areas. For purposes of this Agreement, such costs are referred to herein as "past costs," and consist of sums a Party paid or became obligated to pay during the period set forth above for investigation or remediation of the LEHR Facility, UC Disposal Areas, Affected Groundwater,

and Adjacent Areas; for regulatory oversight costs; for defense or attorneys fees related to the investigation and remedial work; and for compliance with the orders or mandates of agencies or courts related to the investigation and remedial work.

B. Covenants Not to Sue for Future Costs

Except as specifically provided below in Section V.C of this Agreement, each Party covenants that it shall not sue or otherwise seek relief of any kind from the other Party, its employees, contractors, representatives or agents for costs incurred after the effective date of this Agreement, arising from the obligations each Party has assumed under this Agreement. For purposes of this Agreement, such costs are referred to as "future costs" and consist of, but are not limited to, sums for investigation or remediation of the LEHR Facility, UC Disposal Areas, Affected Groundwater, and Adjacent Areas; for compliance with this Agreement; for regulatory costs; for defense or attorneys fees related to the investigation and remedial work; and for compliance with the orders or mandates of agencies or courts related to the investigation and remedial work. Except as specifically provided below in Section V.C of this Agreement, these covenants not to sue apply to all claims involving the investigation and remediation of the LEHR Facility, UC Disposal Areas, and Affected Groundwater; claims for investigation or remediation of the Adjacent Areas; claims for regulatory costs; and claims involving compliance with the orders or mandates of agencies or courts related to the investigation and remedial work; and claims related to the investigation and remedial work based on federal law, state law, the Contract, or the Occupancy Agreement.

C. Exceptions to the Covenants Not to Sue

The Parties agree that the covenants not to sue set forth in this Section V shall not apply in the following situations:

1. **Claims Seeking to Enforce this Agreement.** The covenants not to sue in this Section V shall not apply to claims by either Party to enforce the terms of this Agreement.

2. **Claims by a Regulatory Agency in Conflict with this Agreement.** The Parties acknowledge that one purpose of this Agreement is to allocate between the Parties responsibilities for certain activities related to the investigation and remediation of the LEHR Facility, the UC Disposal Areas, Affected Groundwater, and Adjacent Areas. Should a regulatory agency assert a claim against a Party involving an activity or area that is the responsibility of the other Party under this Agreement, the covenants not to sue set forth in this Section V shall not apply to the extent that the Party against which the agency asserted the claim may seek relief from the other Party requiring it to respond to the agency's claim and to reimburse the Party against which the agency asserted the claim for any costs it incurred in responding to the claim.

3. **Claims by Third Parties other than Regulatory Agencies.** Neither the covenants not to sue nor any other provision of this Agreement shall apply to claims by third parties other than regulatory agencies. With respect to third party claims, the Parties reserve all of their respective rights under applicable law, this Agreement, the Occupancy Agreement and the Contract.

4. **Claims by the University Alleging New Sources of Contaminants in Soils or New Contaminants in Groundwater.** Subject to the following limitations, the covenants not to sue in Section V.B shall not apply to the University to the extent that it may assert claims against DOE for the cost of investigating and remediating new sources of contaminants in soils or new contaminants in groundwater.

(a) For purposes of the exception in this Paragraph (V.C.4), the term "new sources of contaminants in soils" shall mean sources of contamination: (i) arising out of, or connected with, work under the Contract that result in a net increase in investigative and remedial costs greater than \$100,000 either as to a single such source or as to the total for a number of such sources; and (ii) that are not located in one of the areas listed in Paragraphs 1 through 3 of Section I.C or that are not described as one of the responsibilities listed in Section III.A or Section IV.A. If such new sources of contaminants in soils are discovered, DOE will negotiate in good faith with the University to address such sources and to allocate the costs of doing so in excess of \$100,000 among the Parties according to their respective responsibilities for the new sources. If such negotiations fail, the University may assert a claim against DOE for the Department's share of the investigative and remedial costs in excess of \$100,000 that the University incurs in addressing the new sources of contaminants in soils. In the event that the University asserts a claim against DOE under the exception in this Paragraph (V.C.4), DOE reserves all of its rights to assert any and all defenses it may have under any agreement (including, but not limited to, this Agreement, the Occupancy Agreement and the Contract) and under any applicable law or regulation; provided, however, that DOE shall not assert that it is entitled to credit for past costs as defined in Section V.A.

(b) For purposes of the exception in this Paragraph (V.C.4), the term "new contaminants in groundwater" shall mean contaminants: (i) whose presence in groundwater, either alone or in aggregate, results in a net increase in

investigative and remedial costs for groundwater greater than \$650,000; and (ii) which are not on the list of known or suspected groundwater contaminants in Paragraph 5 of Section I.C. If such new contaminants are discovered in groundwater, DOE will negotiate in good faith with the University to address such contaminants and to allocate the costs of doing so in excess of \$650,000 among the Parties according to their respective responsibilities for the new contaminants in groundwater. If such negotiations fail, the University may assert a claim against DOE for the Department's share of the investigative and remedial costs in excess of \$650,000 that the University incurs in addressing the new contaminants in groundwater. In the event that the University asserts a claim against DOE under the exception in this Paragraph (V.C.4), DOE reserves all of its rights to assert any and all defenses it may have under any agreement (including, but not limited to, this Agreement, the Occupancy Agreement and the Contract) and under any applicable law or regulation; provided, however, that DOE shall not assert that it is entitled to credit for past costs as defined in Section V.A.

ARTICLE VI - DOE IMPROVEMENTS AT LEHR

A. Transfer of Certain DOE Improvements to the University

1. Pursuant to Article VII of the Occupancy Agreement, DOE shall promptly transfer ownership of the DOE Improvements or portions thereof (hereafter referred to as "former DOE Improvements or portions thereof") identified in Section A of Exhibit 3 of this Agreement to the University. This transfer of ownership of the DOE Improvements or portions thereof does not affect in any way DOE's decontamination and

decommissioning obligations under the Occupancy Agreement, the Contract, or this Agreement.

2. DOE previously released the DOE Improvements identified in Section A of Exhibit 3 of this Agreement to the University, and the University has been using these improvements for research and appropriate support work sponsored by entities other than DOE. The University shall be responsible for any contamination by hazardous substances, radioactivity or ionizing radiation fields resulting from the University's use of these former DOE Improvements or portions thereof.

B. Facilities DOE Will Retain for the Duration of DOE Environmental Restoration Activities at LEHR

1. DOE will retain the facilities or portions thereof identified in Section B of Exhibit 3 of this Agreement until the completion of DOE's environmental restoration activities at LEHR.

2. The University will allow DOE the continued use and occupancy of the two trailers known as the DOE Silver and Brown trailers. The trailers shall be provided to DOE on a rent free basis upon payment by DOE of the lease payments for the Brown trailer or upon payment of the balloon payment due at the end of the lease. The University shall continue to make these trailers available until DOE has completed its environmental restoration activities at LEHR.

C. DOE Improvements to be Transferred to the University Upon Completion the DOE Order 5400.5 Certification Process

1. In accordance with DOE Order 5400.5, DOE has completed a radiological survey of spaces within the DOE Improvements listed in Section C of Exhibit 3 of this

Agreement. In order to ensure the integrity and credibility of the survey results, the University agrees that it shall not under any circumstances use any of these DOE Improvements or portions thereof prior to the time of release until DOE specifically authorizes such use in writing and the Parties have executed an entry agreement. Police, fire, maintenance, and health and safety personnel may enter any DOE Improvement in order to carry out any necessary and required functions.

2. Upon completion of the certification process provided in DOE Order 5400.5, DOE and the University will execute a transfer agreement that shall include: (1) DOE's authorization to enter these DOE Improvement or portions thereof; (2) the University's acceptance of the results of the radiological survey and of responsibility for any contamination by hazardous substances, radioactivity or ionizing radiation fields that may occur during the University's use of these DOE Improvements or portions thereof; and (3) other terms and conditions the Parties deem necessary.

3. The Parties acknowledge that, prior to the release of the DOE Improvements, DOE will publish a notice of the DOE Improvements' release in the Federal Register in accordance with DOE Order 5400.5. DOE agrees to use best efforts to complete these actions in a timely and expeditious manner. Upon completion of these actions, DOE will promptly transfer ownership of the DOE Improvements listed in Section C of Exhibit 3 to the University.

D. Occupancy of DOE Improvements Retained by DOE

DOE, in its sole discretion, may allow the University to use the DOE Improvements listed in Section B of Exhibit 3 or portions thereof for work not sponsored by DOE, subject to the following conditions.

1. The University shall be responsible for any contamination by hazardous substances, radioactivity or ionizing radiation fields that occurs during the University's use of these DOE Improvements or portions thereof.

2. The University agrees to assume all maintenance and operational responsibilities and costs for these DOE Improvements or portions thereof that it occupies for work not sponsored by DOE. The University shall protect, preserve, maintain (including normal replacement of parts), and repair these DOE Improvements or portions thereof that it uses in accordance with sound industry practices.

3. Ownership of parts replaced by the University in carrying out its normal maintenance obligations under this Agreement shall pass to and vest in DOE upon their installation in the affected DOE Improvement, in DOE's personal property, or in DOE's equipment.

4. The University may, with the written approval of the OAK Assistant Manager for Environmental Management, install, arrange, or rearrange any readily movable machinery, equipment, and other items belonging to the University in these DOE Improvements or portions thereof occupied by the University. Ownership of any such item shall remain with the University even though it may be attached to a DOE Improvement unless the OAK Assistant Manager for Environmental Management determines that it is attached in such a way that removal would cause substantial injury to these DOE Improvement or other DOE property. Nothing in this Paragraph (VI.D.4) shall be construed to require written approval from DOE for the University to perform its maintenance and operational responsibilities as provided in Paragraph 2 of this Section VI.D.

5. The University shall not construct or install any fixture in or make any structural alterations to these DOE Improvements without advance written approval of the OAK Assistant Manager for Environmental Management.

6. The University agrees to return these DOE Improvements or portions thereof that it uses to DOE's control, if and when requested by DOE, in the same condition as the University received them less normal wear and tear, subject to the provisions of Paragraph 2 of Section VI.D.

7. If the University fails to abide by the provisions of this Section D of Article VI or by any terms or conditions of an entry agreement, the OAK Assistant Manager for Environmental Management may, after the University has been given notice and a reasonable opportunity to remedy the failure, require the University to vacate with reasonable diligence and dispatch any or all of the DOE Improvements listed under Section B of Exhibit 3 and used for work sponsored by entities other than DOE.

8. In consideration for its use of these DOE improvements, the University shall provide the OAK Assistant Manager for Environmental Management with an annual summary describing all published articles or reports concerning the work carried out in these DOE Improvements, and that lists the entity sponsoring the work, the hazardous substances that were used, the amounts of hazardous wastes generated, how these wastes are disposed of, and the name of the appropriate person for DOE to contact if the Department has any questions about the use of the affected DOE Improvement.

9. Persons engaged in support of the activities DOE has agreed to perform under this Agreement or close out of the Contract have a priority right to use any DOE Improvement listed in Section B of Exhibit 3. Any disputes concerning this priority right

shall be resolved by the OAK Contracting Officer and such disputes are not subject to the provisions of Section II.A.

E. Access to the DOE Improvements Occupied by the University

Upon request by DOE, the University may grant access during normal business hours to DOE, its agents, and contractors to the DOE Improvements occupied by the University for purposes of performing the activities under this Agreement. The DOE access requests shall be approved by the University in its discretion, which approval shall not be unreasonably withheld. DOE shall have the right to enter, during normal business hours and without the prior approval of the University, the DOE Improvements that have not yet been released for University occupancy.

F. Liability

1. Subject to the provisions of Article V of this Agreement, DOE shall transfer ownership of the DOE Improvements in their "As-Is" condition, with all faults, and the University assumes the risk of adverse physical conditions associated with the DOE Improvements. As of the transfer date of the DOE Improvements, the University, for itself and its agents, affiliates, successors and assigns, hereby releases and forever discharges DOE from any and all claims which the University has or may have in the future, arising out of the physical condition of the DOE Improvements excepting any claim arising under any express term of this Agreement, including without limitation, Articles IV or V. The above release shall not apply to any claims relating to the parties remedial obligations under this Agreement for the LEHR Facility, UC Disposal Areas, Affected Groundwater, and Adjacent Areas and shall not expand or modify the Covenants Not to Sue set forth in Article V.

2. The University agrees, when DOE has granted the University exclusive occupancy of any DOE Improvement or portion thereof, or exclusive use of personal property, equipment, materials and supplies, whether or not modified by the University, and whether or not said Improvements or portions thereof, or materials are appurtenant, to assume any and all liability for any damage to such Improvements or portions thereof or property as provided herein, prior to the time ownership of such Improvements is transferred to the University. The University agrees to indemnify and hold harmless the United States Government for such liability in proportion to and to the extent such liability, loss, expense, attorneys fees, claims for injury or damage are caused by or result from the negligent or intentional acts or omissions of University employees, agents or contractors associated with non-DOE sponsored activities.

3. The University agrees to assume any and all liability for any violation of third party intellectual property rights, including but not limited to patent and copyright infringement for work sponsored by entities other than DOE that is done in any space in the DOE Improvements that have not been transferred to the University (or portions thereof) or done with any personal property, equipment, materials and supplies owned by DOE, whether or not modified by the University, and whether or not such personal property equipment, materials or supplies are appurtenant to a DOE Improvement.

G. Transfer of Ownership of the Retained DOE Improvements

Except as specifically provided in Paragraph 1 of Section VI.A and Paragraph 3 of Section VI.C, nothing in this Agreement shall be deemed to convey ownership of the DOE Improvements listed in Section B of Exhibit 3 to the University until such time as DOE has completed the remedial work provided in Article IV. Upon completing the remedial work

described in Article IV, DOE shall perform the decontamination and decommissioning activities, if any, required under DOE Order 5400.5 for the DOE Improvements listed in Section B of Exhibit 3. Upon completing these activities, DOE shall transfer ownership of the remaining DOE Improvements to the University in accordance with the procedures set forth in Section C of this Article VI.

ARTICLE VII - MISCELLANEOUS PROVISIONS

A. Amendment

This Agreement may be amended at any time by mutual consent of the Parties. Any such amendments shall be in writing, shall be explicitly identified as an Amendment to this Agreement, and shall be signed by both Parties.

B. Anti-Deficiency Act

No provision of this Agreement shall be interpreted as or constitute a commitment or requirement that DOE shall obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. § 1341. Payments by DOE are subject to the availability of appropriated funds. Payments by the University are subject to the availability of designated funds. The Parties agree that, during the period in which this Agreement remains in effect, each will be diligent in seeking appropriation or designation of funds for the purpose of performing its respective obligations under this Agreement.

C. Entire Agreement

This Agreement contains the entire agreement between the Parties with respect to the investigation and remediation of the LEHR Facility, the UC Disposal Areas, the Affected Groundwater, and Adjacent Areas, and with respect to the University's ownership of, and DOE

access to, the DOE Improvements at the LEHR Facility. It supersedes all prior understandings, negotiations, oral agreements or written agreements between the parties including, but not limited to, the Prior MOA and Article XIV ("CONTINGENCIES - LITIGATION AND CLAIMS") of Contract EY-76-C-03-0472 as to the investigation and remediation of the LEHR Facility, UC Disposal Areas, Affected Groundwater, and Adjacent Areas; provided, however, that this Agreement does not supersede the Contract or the Occupancy Agreement except as to their application to the investigation and remediation of the LEHR Facility, UC Disposal Areas, Affected Groundwater, and Adjacent Areas and to DOE Access to the DOE Improvements at the LEHR Facility prior to the termination of the Occupancy Agreement.

D. Effective Date

The effective date of this Agreement is the date of the last signature.

E. No Third Party Beneficiaries

This Agreement is solely for the benefit of the University and DOE, and shall create no rights in favor of, and may not be enforced by, any other person or entity.

F. Successors and Assigns

This Agreement shall bind and inure to the benefit of the Parties and their respective successors and assigns.

G. Governing Law

This Agreement shall be governed by and construed in accordance with the laws of the State of California and the United States.

H. Waiver of Provisions

No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provision, whether or not similar, nor shall any waiver constitute a

continuing waiver. No waiver shall be binding unless executed in writing by the Party making the waiver.

I. Separability

If any term, covenant, condition or provision of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions shall remain in full force and effect and shall in no way be affected, impaired, or invalidated.

J. Headings

The subject headings used in this Agreement are for convenience only and shall not be deemed to affect the meaning or construction of any of the terms of this Agreement.

K. Counterparts

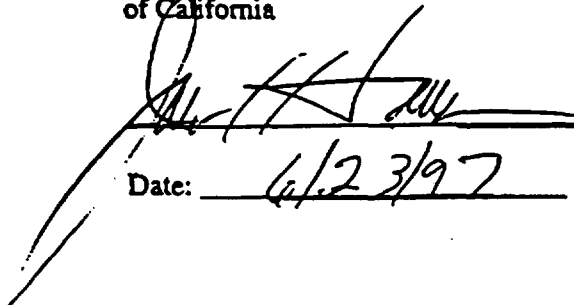
This Agreement may be executed in counterparts, each of which shall be deemed an original, and when taken together shall constitute an integrated agreement.

United States Department of Energy



Date: 6/12/97

The Regents of the University
of California



Date: 6/23/97

EXHIBIT 2

GREEN TAG	Inventory TPHRL, Rm. 725 I.D.	SAC DATE	Estimated Activity (Pu-241 μ Ci)
0	81J40L	11-30-84	1
0	86I18K	2-24-88	10
0	81B08N	11-30-84	1
0	77G18Y	5-6-82	1
0	78K43X	1-13-83	1
0	79E51B	4-3-86	10
0	87I22J	2-24-88	10
0	79G57X	7-6-83	1
0	81K42C	11-30-84	1
0	82B02C	10-31-85	10
0	79E51A	4-6-84	1
0	79K71Y	5-7-82	CONTROL
0	78K43X	7-24-82	1
0	79G57Z	10-5-85	10
0	81C14S	10-31-85	10
0	82C07A	9-5-86	10
0	81C11U	5-5-83	1
0	81C14S	10-31-85	10
0	81G16W	11-30-84	1
0	78K48C	5-16-83	1
0	79B57G	10-7-85	1
0	82B02B	8-8-86	10
0	77F11Y	4-20-82	1
0	MCY21065	2-15-84	1
0	MCY21068	11-3-86	10
0	MCY21067	11-18-85	10
0	MCY21064	12-19-83	1
0	MCY21063	11-3-86	10
0	MCY21066	11-3-86	10
0	MCY21061	8-9-83	1
0	MCY21058	10-30-86	10
0	MCY21067	11-18-85	1
0	MCY21069	11-19-84	1
0	MCY21062	8-18-84	1
0	MCY21059	9-9-83	1
0	MCY21058	10-30-86	1
0	MCY21063	11-3-86	1
0	MCY21060	8-10-84	1

EXHIBIT 3

A. DOE Improvements to be Transferred to the University Immediately

Maintenance Shop - H-212: All rooms

Main Building (3792) - H-213: All rooms

Reproductive Biology Laboratory (4085) - H-215: All rooms

Specimen Storage (4084) - H-216: Rooms 420, 421, 422, 423, and 424

Inter-regional Project No.4 (3792) - H-217: All rooms

Animal Hospital No.2 (3846) - H-218: Rooms 301, 302, 303, 304, 305, 306, 307, 30713, 308, 311, 314, 315, 316, 318, 333, and 334

Occupational and Environmental Medicine (4315) - (H-289) (Old LEHR Receiving Business): All rooms

Co-60 Annex (4316) - H-290: Rooms 601, 602, 603, and 604

Geriatrics Building No. 1 (4450) - H-292: North half only

Geriatrics Building No.2 (4451) - H-293: All rooms

Cellular Biology Laboratory (4452) - H-294: All rooms

Small Animal Housing H-296: Entire area

Storage Space (H-300)

Toxic Pollutant Health Research Laboratory - H-299: All Rooms

B. DOE Improvements to be Retained by DOE Until DOE Cleanup Activities End

Animal Hospital No. 1 (3750) - H-219: Rooms 200B, 200C, 200D, 201, 202, and 203

Geriatrics Building No. 1 (4450) - H-292: South half only

EXHIBIT 3

C. DOE Improvements to be Released to the University at the Completion of the DOE Order 5400.5 Certification Process

Animal Hospital No. 2 (3846) - H-218: All rooms except Rooms 301, 302, 303, 304, 305, 306, 307, 30713, 308, 311, 314, 315, 316, 318, 333, and 334

Animal Hospital No. 1 (3750) - H-219: All rooms except Rooms 200B, 200C, 200D, 201, 202, and 203

Co-60 (4249) - H-229: Entire Building

Feed Mix, Specimen Storage (4084) - H-216: Room 425